100% WINDOWS NT-FREE!

A better machine. A better magazine.

Mac ADDICT 19

MAR/98

CURSES! FOILED AGAIN!

PC

PC

VROOM!

SOUP UP YOUR MAC

REV ON THE REDLINE, DUDE!

43 Mac OS Speed-tuning Tricks

6 Custom Mac Upgrades!

PLUS

We road-test G3 Macs, QuarkXPress, Quicken '98, and more!

Power Macintosh

PowerPC

I8APC

FINISH

www.macaddict.com

imagine
a new way of publishing

$7.99 U.S./$8.99 CANADA

03>

0 74470 01096 8

The most based system

Power

Microprocessor

- Upgradable Microprocessor CPU daughter card
- PowerPC 604e and G3/Arthur PPC 750
- Allows upgrade of primary processor with a 604e and G3 family CPU card, or addition of a second processor card
- Built-in floating-point processor and 64K on-chip cache
- High-speed system bus (up to 50 Mhz) DayStar nPOWER Technology compatible.
- Two PowerPC processors on a single card.
- Takes advantage of multiprocessing software

Growth

Storage 2

Room for internal CD ROM, CDR, Optical, or Syquest Drives

More Power

Upgradeable Processor

- 604e/200, 225, 233, 250 MHz primary processor card
- 604e/200, 233, 250 MHz secondary processor daughter card
- G3 PPC 750/233, 250, 266, 275, 300 MHz primary processor card

Growth

Storage 1

- 3 internal 3.5" drive bays available Jaz, Zip, and Floppy.

View

Graphic Support

- 3D acceleration, QuickTime accelerated, and MPEG

Expansion

- 6 Slots for PCI cards with standard brackets.

Connected

Networking

- On-board Ethernet (10Base-T and AAUI connections)

Brains

Memory

- 8 DIMM slots Interleaved for faster access time
- 512K Level 2 cache
- 512K or 1024K "Backside Cache" with (PPC 750/G3)

- An additional rear-mounted stereo audio out jack

Jam

Audio

- Bottom front bezel-mounted stereo audio in/out jacks.

Mactell's XB-PRO Series computers give our customers the ability to choose from multiple configuration options, providing them with the flexibility to create the system that exactly fits their individualized needs now and adjust with their plans for change and future expansion.

expandable Mac OS on the planet!

233MHz Complete System

$2595

The most expandable Mac OS based system on the planet!

32MB RAM/2.1GB HD
12X CD-ROM/4MB Video
Keyboard & Mouse

FREE Upgrade G3

Purchase this 233MHz/604e Tsunami system and receive a **FREE** upgrade to an Arthur 750/G3 233MHz 512K backside cache **

200 MHz 603e Complete System

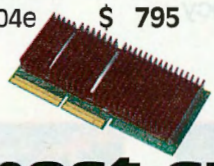
$999

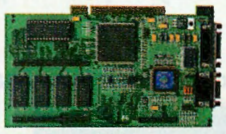
XB Series DeskTop△

Base system starting at:
603e 200MHz $585
604e 200MHz $775

16MB RAM / 1.2GB HD
16X CD-ROM / 2MB Video
Extended Keyboard & Mouse
&
14" Mactell Color Monitor

Processor		Video Cards		Memory	
233MHz 750/G3 card ** 512K backside cache	$ 925	2MB Mactell Vision 3D	$ 125	2MB 3.3V EDO RAM	$ 69
266MHz 750/G3 card ** 512K backside cache	$ 1095	4MB Mactell Vision 3D	$ 157	64MB 3.3V EDO RAM	$ 169
275MHz 750/G3 card ** 1MB backside cache 1:1 ratio	$ 2495	8MB Mactell Vision 3D Pro	$ 595	32MB 5V FP RAM	$ 69
300MHz 750/G3 card ** 1MB backside cache 1:1 ratio	$ 2595	2MB IMX TwinTurbo	$ 225	64MB 5V FP RAM	$ 169
PoweJolt 200MHz-604e	$ 295	4MB IMX TwinTurbo	$ 329	32MB SGRAM/G3	$ 100
PoweJolt 233MHz-604e	$ 449	8MB IMX TwinTurbo	$ 649	64MB SGRAM/G3	$ 279
PoweJolt 250MHz-604e	$ 795	4MB IX3D Mac Rocket	$ 235	128MB SGRAM/G3	$ 510
		4MB IX3D Pro REZ	$ 299	2MB Video SGRAM	$ 65
		8MB IX3D Ultimate REZ	$ 599		
		4MB IMC TV/Tuner w/video	$ 285		
		4MB SGRAM ProRez	$ 299		





the most customizable mac system.

mactell™

Mactell Corporation is an authorized MacOS system sublicensee and will continue to fulfill your needs in the future. Mactell offers a complete line of third party peripherals, thirty day money back guarantee on standard configurations, and up to three-year warranty with all systems. Major accounts, educational institutions and government agency purchase orders accepted. Contact Mactell to establish an account. Dealer, Integrator, Distributor, and leasing inquiries welcome.

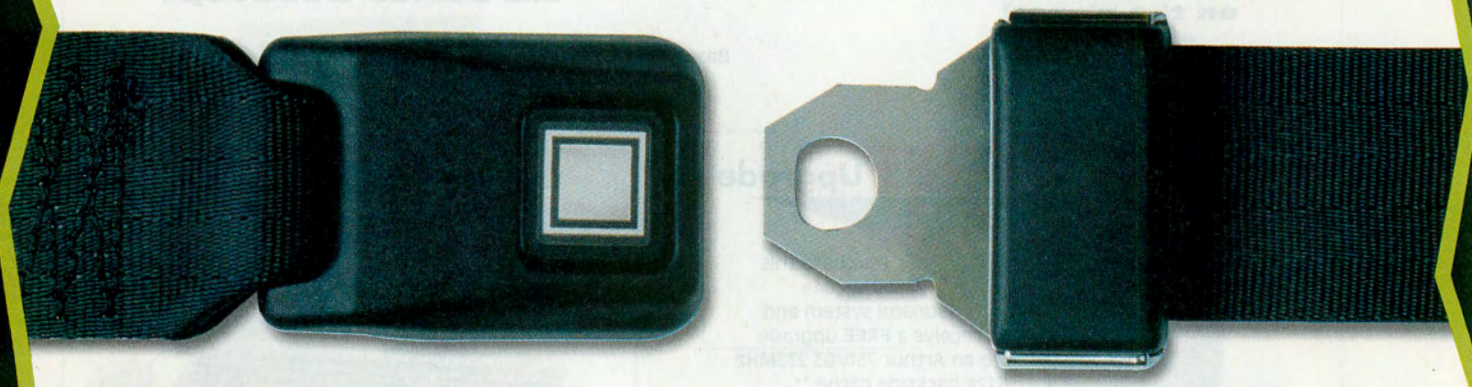
www.mactell.com
1 888 mactell

MA03

Mactell Corporation • 7000 Cameron Rd., Austin, Texas 78752 888-622-8355 • 512-323-6000 • Fax 512-323-6394

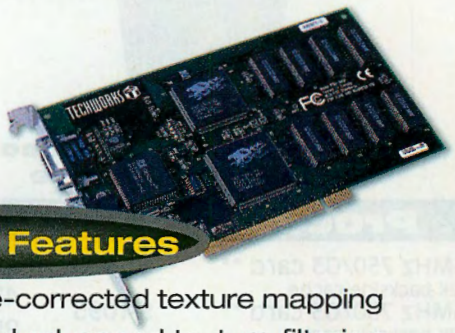
Mactell and Mactell Logo are registered trademarks of Mactell Corporation. All other trademarks and product names used herein are the property and/or registered property of their respective owners. Mactell is not responsible for typographical and photography errors. Prices, specifications and availability subject to change without notice. Leasing terms and credit approval provided by third party. Monthly lease payment based on 36 month term. † Extended warranty and extended on-site plans available. Call for details. △ Computer chassis may not match exactly shown. ** G3 upgrade is supplied as a third party upgrade and is not supported or certified by Apple Computers.

BEFORE INSTALLING OUR NEW POWER3D™ GRAPHICS ACCELERATOR, PLEASE CONNECT THE FOLLOWING PERIPHERALS.



Better strap yourself in.

TechWorks introduces the very first gaming card for the Mac with 3Dfx VooDoo Graphics technology. That means you can turn your PowerPC into a Power Arcade, with mind-blowing graphics for the latest games. Take it for a spin with new 3Dfx-enabled titles right in the box, including Quake Episode 1, MechWarrior 2, VR Soccer and Weekend Warrior. It's completely plug and play, and works with Mac OS 8. So call 1-800-434-4031, order online at www.techworks.com or ask for Power3D at your local Mac retailer. And get ready to put the pedal to the metal.

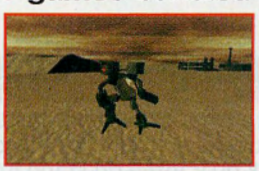


Power3D Features

- Perspective-corrected texture mapping
- Bi-linear and advanced texture filtering
- Gouraud shading and texture modulation
- Anti-aliasing and alpha blending
- Special effects: fog, transparency and translucency

Check out these Mac games bundled with Power3D.

Quake™ Episode 1 by iD Software



MechWarrior® 2 by Activision

VR Soccer™ by VR Sports

Weekend Warrior™ by Bungie Software

MICRO CENTER THE COMPUTER DEPARTMENT STORE®

The Mac Zone

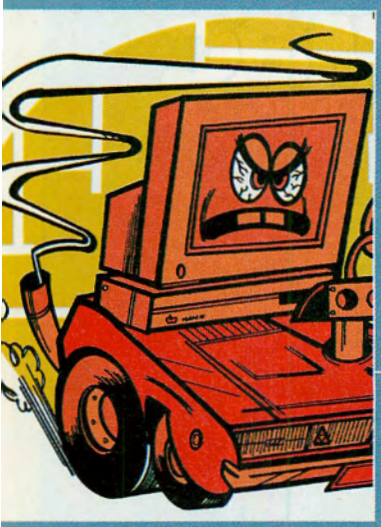
other World Computing SERVING THE MAC UNIVERSE SINCE 1988

POWER3D™ BY TECHWORKS

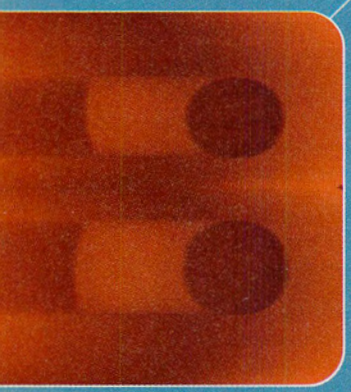
TechWorks Inc. 4030 W. Braker Lane, Austin, TX 78759. Tel: 512-794-8533. Fax: 512-794-8520. TechWorks U.K. Ltd.: 811-882 Plymouth Rd., Trading Estate, Slough SL1 4LP, U.K. Tel: +44 01753 898-500, Fax: +44 01753 898-501. TechWorks is a registered trademark of Technology Works, Inc.
All other names including Mac OS 8, 3Dfx, VooDoo Graphics, PowerPC, Quake, MechWarrior, VR Soccer, Weekend Warrior, Micro Center, Other World Computing, and The Mac Zone are registered trademarks of their respective companies.

MARCH 1998

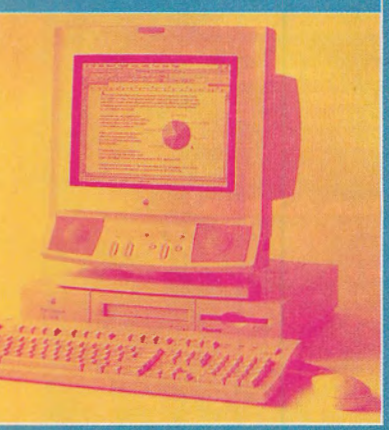
Mac ADDICT 19



Didja say you wanted to drrrrrrrrag? Bring it on with these smokin', speed-burnin' babies!



Because it's all about speed. It's...it's...it's your Mac on OS 8!



You asked for it! It's back. It's handy. It's the new installment of This Old Mac! Don't you feel better already?

highlights

28 **Nitro-burning Funny Macs**
Does your Mac stutter at intersections? Does it seem slow getting off the starting line? If so, you need to upgrade. Here's how to make a speed demon out of your not-so-fast Mac.
BY DAVID REYNOLDS

36 **Accelerate OS 8**
There's an awful lot you can do to speed up your Mac without spending a dime. We give you the best—and cheapest—speed tips you'll ever see. Many of these tips work on older systems as well. **BY OWEN W. LINZMAYER**

46 **This Old Mac**
Back by popular demand! This Old Mac returns to *MacAddict,* and this month it features the Power Mac 6100. **BY T. KELLEY BOYLAN**

how to

74 **Jazz Up HyperCard Stacks**
HyperCard doesn't *have* to be ugly. Here's how to add some color to your stacks.

78 **Create Inline Frames**
Web developers, take note—you can, indeed, create nonintrusive frames. Here's how.

82 **Know It All About Sound**
Absolutely everything you need to know about sound—how to record it, what to do with it, and what file types you need to use.

This snaggle-toothed speed demon spent a year and a half in the garage while we hunted down parts and argued over specs. Master mechanic Olivier Wolfson put it on the pavement.

Heh, heh, heh...who's shaking whom *now,* big boy?

Ah, the magical island of your dreams. One-piece or a bikini for your Mac?

every month

6 Editor's Note
Get a load of this! No, really. Check it out.

8 Letters
We don't know what Chr4is Wang-freaking-Iverson was complaining about, either. Confused? Then read the letters. (Although that won't clear up anything.)

18 Get Info
The latest and greatest announcements from Steve Jobs, Now Utilities revisited, and the new goodies in Mac OS 8.1.

24 Cravings
Five things that we think are worth two thumbs *and* two toes up!

50 Reviews
Hot off the production line: QuarkXPress 4.0, Quicken Deluxe '98, PhotoTools 2.0, MessagePad 2100, Galapagos, PhotoDeluxe 2.0, Ray Dream 3D, the new G3 Macs, DenebaCAD, and—get this—more!

86 Ask Us
How to free up memory, understanding that mysterious remote control sensor thingie, how to switch between multiple serial devices, and more.

90 PowerPlay
Racing Days R previewed, Myth strategies, and the quirky Burning Monkey Solitaire reviewed. Lots of screenshots, too.

112 Shut Down
Ha ha. Ha ha. Ha ha ha. HA!

the disc

12 Get 'em here! High-octane tools for making your Mac hum along at high speeds.

the web site

http://www.macaddict.com

17 Uh oh. We've changed things again. Check out our new, improved, simplified Web site design as well as our brand-new *MacAddict* Network site. We hope you like them!

MacADDICT

EDITORIAL
PUBLISHER/EDITORIAL DIRECTOR **Cheryl England**
EDITOR **David Reynolds**
MANAGING EDITOR **Judy Lewenthal**
SENIOR EDITORS **Nikki Echler, Kathy Tafel**
ASSOCIATE EDITOR **Robert Capps (reviews)**
CD-ROM: **Wade Albright (CD-ROM editor), Thomas Hale (director, development)**
ONLINE EDITOR **Mark Simmons**
ASSOCIATE ONLINE EDITOR **Jennifer Gwirtz**
CONTRIBUTING EDITORS **Raf Anzovin, Steven Anzovin, Joseph O. Holmes, Ross Scott Rubin, Buz Zoller**
FREELANCE EDITOR **Laura Fredrickson**

ART
ART DIRECTOR **Ken Bousquet**
ASSOCIATE ART DIRECTOR **Adam Vanderhoof**
DESIGNER **Chris Vanderhoof**

PRODUCTION
PRODUCTION DIRECTOR **Richard Lesovoy**
PRODUCTION COORDINATOR **Ken Brandow**

ADVERTISING
NATIONAL AD MANAGER **André Lengyel**
REGIONAL AD MANAGER **Don Kimenker**
REGIONAL AD MANAGER **Christina Sorrentino**
REGIONAL AD MANAGER **Kevin White**
MACADDICT NETWORK AD MANAGER **Camilla Colegrave**
MARKETING MANAGER **Mary Lachapelle**
ADVERTISING COORDINATOR **Jana Massey**

CIRCULATION
NEWSSTAND DIRECTOR **Bruce Eldridge**
NEWSSTAND MANAGER **Thea Selby**
NEWSSTAND ANALYST **Terry Lawson**
CIRCULATION MANAGER **Kate Bailey**
FULFILLMENT MANAGER **Peggy Mores**
DIRECT MAIL MANAGER **Amy Nibbi**

Imagine Media, Inc.
PRESIDENT, IMAGINE DIGITAL **Mark Gross**
VICE PRESIDENT/CIRCULATION **Holly Klingel**
VICE PRESIDENT/CFO **Tom Valentino**
PRESIDENT **Chris Anderson**
INTERNATIONAL LICENSING: Robert J. Abramson & Associates, Inc., 720 Post Road, Scarsdale, NY 10583

SUBSCRIPTION QUERIES
Please phone customer service toll free at 888-771-6222.

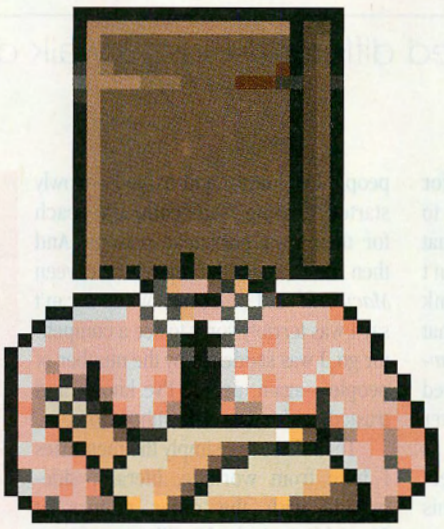
Volume 3, Issue 3
MacAddict (ISSN 1088-548X) is published monthly by Imagine Media, Inc., 150 North Hill Drive, Suite 40, Brisbane, CA 94005, USA. Periodical-class postage paid at Brisbane, CA, and at additional mailing offices. Newsstand distribution is handled by Curtis Circulation Co. Basic subscription rates: one year (12 issues + 12 CD-ROMs) U.S. $39.90, Canada $43.95, U.S. prepaid funds only. Canadian price includes postage and GST 128220688. IPM 0962392. Outside the U.S. and Canada, price is $53.95, U.S. prepaid funds only. POSTMASTER: Send address changes to *MacAddict*, P.O. Box 58251, Boulder, CO 80328-8251. Imagine Media, Inc. also publishes *Boot, Ultra Game Players, Next Generation, PC Gamer, FSM,* and *The Net*.

Entire contents copyright 1998, Imagine Media, Inc. All rights reserved. Reproduction in whole or in part is prohibited. Imagine Media, Inc. is not affiliated with the companies or products covered in *MacAddict*. Standard Mail Enclosed Edition: A5, C, C1, C3, C4, C5. PRODUCED IN THE UNITED STATES OF AMERICA.

BULK RATE
U.S. POSTAGE PAID
Waseca, MN
Permit No. 348

OK, now I'm really leaving. For real. Hey, Rob, that bit about it being "all about you"? Hahahaha! You guys really are the very, very best. Woo! Camp MacAddict!

Some people won't like our new software...



...but you will! We'll be the first to admit that Norton™ Utilities for Macintosh is a great product and has helped many Mac users over the years. But now TechTool Pro is better. Why? We've added the important drive repair and recovery functions (like those found in Norton) and combined them with TechTool's large arsenal of diagnostic tests. This means that not only can you find and correct drive and file problems (like Norton), but you can also test all those other critical parts of your system that Norton ignores like RAM, CPU, floppy drives, scanners, Internet connections, CD-ROM drives and much, much more. In fact, no other utility on the market can check the fitness of your Macintosh to the extent of TechTool Pro.

Just because TechTool Pro is the most advanced diagnostic utility available doesn't mean it's difficult to use. In fact, with version 2, we've added an easy-to-use interface that makes checking your Macintosh a snap. For the advanced user, our Expert mode allows you to control and configure TechTool Pro in almost any way you wish.

For more information about TechTool Pro 2, call us at the number below or visit our web site. You'll see that anything else is just a plain paper sack.

TechTool Pro®

Toll Free: 800-829-6227
International: 707-837-8012
FAX: 707-837-0209
info@micromat.com
www.micromat.com

MICROMAT
COMPUTER SYSTEMS
8868 Lakewood Drive
Windsor, CA 95492

TechTool is a registered trademark of MicroMat Computer Systems Inc. Norton and NUM are registered trademarks of Symantec Inc.

editor's note

MacAddict to be edited different! Plus, a walk down memory lane.

Well, this is it. My last Editor's Note for *MacAddict*. Wait! Before you flip to the front of the issue to check what month is on the cover, rest assured, this isn't an April Fool's joke. And before you think that something else is afoul here, read that first sentence again—I didn't say I was *leaving*. On the contrary—I'll be more involved with every aspect of *MacAddict* than ever before as I step into the role as publisher and editorial director for the magazine. What this means is that I'm now responsible for the financial health of the magazine as well as the overall editorial quality—a big, spooky, and exciting job.

Starting next month, day-to-day operations for the magazine will be handled by David Reynolds, a founding member of the *MacAddict* team, who is taking on the new title of editor. It's David's slightly grizzled face you'll see gracing this column every month from now on. (Although he did say he was contemplating a good shave!) Nikki Echler and Kathy Tafel also have been promoted—to senior editors, acknowledging not only all their hard work since Issue No. 1 but also their growing responsibilities.

While I'm looking forward to my new job with a mix of excitement and, frankly, total terror, I also find myself getting sentimental about the past year as editor-in-chief. There are the obvious Apple-related memories: Steve Jobs coming back to run Apple, the $150 million investment in Apple by Microsoft, the death of the key clone makers, the complete changeover of Apple's management team, and the absorption of the NeXT management team.

But there have been far more personal memories for me in the past year. First, I've watched as longtime Apple employees—people I've known and trusted—slowly started leaving the company, each for their own particular reasons. And then there was the merger between *Macworld* and *MacUser*. While I can't say I was terribly sorry to see a competitor go, I was saddened by the number of people—again, people I've known and trusted—who were left without jobs.

We'll certainly never forget what it was like to be spied on 24 hours a day…

Then there are simply the memories I have from working, literally, side-by-side with the other editors at *MacAddict*. I doubt I'll ever forget Mark Simmons' impromptu poems and songs floating over my cubicle wall or Wade Albright's insistence on calling me The Python (thanks, he claims, to my ability to choke the life out of just about anything). And speaking of choking, Kathy and Nikki have each tried to choke me to death at least once. I doubt I'll ever get that kind of respect anywhere else in my life.

And, of course, there are other great things that happened during the year. The whole team took a trip to Cabo San Lucas, Mexico, thanks to a company prize we won for the best integration of print, Web, and CD-ROM product. (Remember the M.A.R.S. Probe? We'll certainly never forget what it was like to be spied on 24 hours a day, nor will we forget the mechanical, grinding noise it made as it spun around.) Ken Bousquet, Adam Vanderhoof, Judy Lewenthal, and I made a trek to New York for the Computer Press Awards and walked out—stunned—with a trophy for Best Overall Magazine (we celebrated with a midnight run on the Staten Island Ferry to wave to the Statue of Liberty).

I'm sure that 1998 will be filled with its share of memories. Already, Judy is leaving to help relaunch another of Imagine's magazines, *The Net*, and Ruth Henrich, the former managing editor for *Macworld* is joining the team in Judy's place. I just hope this year's memories will be half as good as last year's.

—Cheryl England

A Few of My Favorite Things

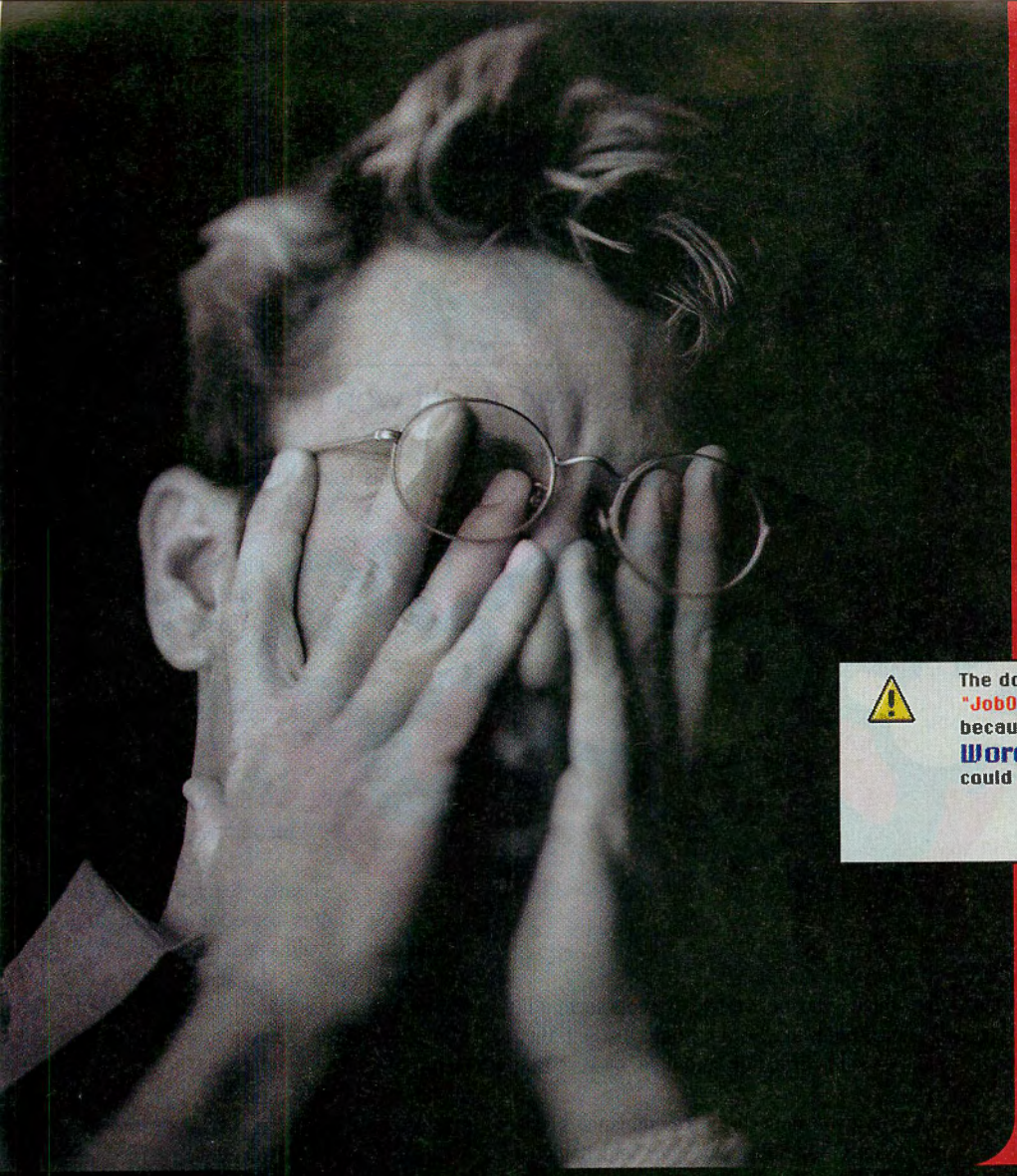
On my cubicle wall right now is a picture of a human bean, drawn and sent to us recently by Clay Fighter, one of our young readers. It cheers me up every time I walk by it. In fact, a lot of my favorite things from 1997 have been sent in by you, the readers of *MacAddict*. You send us poems, jokes, newspaper clippings, sightings, photos, drawings, thoughts, tips, rants, Web site addresses, and more. You send us well-rationed pleas when we've done something that upsets you. You send us letters filled with exclamation points and capital letters, to the point that we can practically see you tearing your hair out in irritation.

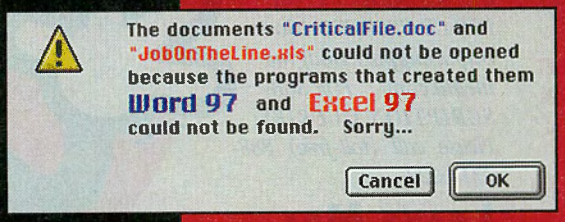
You've even sent us food. We've received persimmons as a contest bribe, M&Ms as a thank you, and even a fantastic, exceedingly rich batch of homemade cookies from Jeffrey Hester of Ground Zero Software, makers of Bedlam. (Uh, sorry for the delay with Bedlam 2, Jeffrey.) Oh, and chocolate from the Weird Guy, too.

You've sent other presents as well. Nikki still has the Apple watch that Paul Krochmal and Richard Stevenson gave her at Expo in Boston, and Kathy still regrets that the post office lost the *Babylon 5* figure someone sent.

And then there have been the incidents. I doubt I'll ever forget the time I was in my car, getting ready to get onto Highway 101 in San Mateo, when the maniac beside me started honking and waving. I looked over just in time to see him pick up his September issue of *MacAddict* from the front seat and wave it at me, smiling all the while.

Finally, John, thanks for the phone calls—I think. Ditto on those letters, JT. And, Joey, I still have Max and all 24 wonderful letters. While I won't be reading *all* the letters to *MacAddict* any more, someone from the team will be—and I'm sure they'll enjoy them as much as I have.





I want my MacLink Plus!

Dealing with Windows files doesn't seem to get any easier does it? Just when you think you've got the compatibility issues all worked out, some new problem comes along. It's enough to make you want to cry!

Luckily there's ***MacLinkPlus***. From DataViz, the compatibility experts. Our file conversion software has been helping Mac users survive in a PC dominated world for years. Loaded with hundreds of translation possibilities, ***MacLinkPlus*** is the only choice for converting Windows word processing, graphics and spreadsheet files for use on your Mac. With just a point and click or drag and drop. That's why Apple bundles **MacLinkPlus** with every Mac OS. And why you should upgrade your MacLinkPlus today.

Make sure you've got the latest.

Our newest version, ***MacLinkPlus 9.7***, has been specially designed to take care of Microsoft Office 97 Word and Excel file conversion needs. As well as many other popular Mac and Windows software packages. No other product on the market offers a more complete solution than ***MacLinkPlus***. Or ever will.

At DataViz, we're just as committed to the Mac today as when we started out in 1984. Which is why you'll continue to see new upgrades and clever new products from us in the months to come.

All designed to make a Mac user's life just a little less painful.

DATAVIZ

For details, visit our web site at http://www.dataviz.com/IwantMacLink or call us at 1-800-270-0030 ext 133.

MacLinkPlus 9.7. File compatibility for your Mac.

All product names are trademarks of their respective holders.

See us at Macworld Expo, Booth #1335.

letters

You keep trying to make deals with us. Well, it just won't work!

This Month

WRITE TO US: MacAddict, *150 North Hill Drive, Suite 40, Brisbane, CA 94005, or send email to letters@macaddict.com. FOR CD PROBLEMS: Go to http://support.imaginemedia.com. FOR SUBSCRIPTION QUERIES: Please call (toll-free) 888-771-6222.*

GET ON, GET ACTIVE. Talk to us and to other Mac addicts at the Web site.

Leave Max Alone, Will Ya?

I noticed that, in your November issue, there was a slight protest about Max having hair. I think that hair is just great, but let's get to the more important matters. What Max really needs is clothes!!!! Not all the time, since Max should be able to be free once in a while, and not to carry the burden that all of us do everyday. Although, for younger viewers' sakes, he at least should wear clothes on the front cover. —Zack Williams, Ashland, Oregon

Here's a thought. Just so you can't be accused of sexism, maybe you could introduce "Maxine"? If two mascots seem a little crowded, maybe you could just get Max to do some drag now and then. —Mike Benda

Have you noticed the resemblance between Max (your little man logo) and Battle-Girl? Are they related? —Pat Mitchell

While reading the October 1997 issue for the 500th time, I reread a letter from Justin LaSelva about Max's hairstyle. I took interest in this letter, having never noticed that Max is, in fact, bald. However, while going through the rest of the magazine, I noticed one other thing about Max. More often than not, Max is NUDE!!! Is there something about Max you're not telling us? —Beverly Westerberg, Minnetonka, Minnesota

I saw a letter to you in the November issue saying that Max shouldn't be bald and at least should wear a wig. In my opinion, Max should stay just the way he is, baldness and all. I mean, come on, who really likes a cheesy toupe? In all the pictures of Max with different hairstyles, bald definitely looks the best, although the fact that he is frowning in all of the pictures except the bald one could help. The only thing I think you should change is to make him look more like my dad, the model Mac addict. How could my dad be better? He's bald, and he owns the only computer store in town that carries a major amount of Mac

RECENTLY SIGHTED

Steve Rittner owns a private floral design school, Rittner's Floral School in Boston, Massachusetts. Not only does Steve's shop run on Macs, but he uses them as part of some floral designs. Says Steve, "I noticed in the December '97 issue of *MacAddict* (p41) that there was a suggestion for readers to take old, nonfunctioning Macs and use them for aquariums and change jars. I would also suggest another alternative use that I think would be far more aesthetically pleasing...make them into bases for floral arrangements." Details are available on Steve's Web site at http://www.tiac.net/users/stevrt/index.html

Just in case you were worried about Apple shutting down all of the clone makers' operations, I thought you might like to see this photo of an exciting new Power Mac "clone." It's a real, honest-to-goodness chainsaw made by McCulloch, called the PowerMac, model PM325AV-16. (Wow! A revival of the "AV" designation.) The only thing I added to enhance the beauty of this new PowerMac is the Apple logo sticker you see on the body of the chainsaw.

products. Oh, I'm rambling aren't I? I should probably leave you alone now.... —Zach Mandell

Urge to Overkill?

What if Bungie made an operating system for the Mac? Just what you need to brighten up your day! Need to delete a file? Just whip out your trusty SSM Launcher, and the sucker is just another splat on the floor. Need to get rid of all your copies of SimpleText? The assault rifle works quite well for that. Imagine how easy it is to remember where everything is on your hard drive. Just down this hallway, turn left, through the sixth door on the left, down the stairs, into the room marked ClarisWorks, hit the switch, and presto! There's ClarisWorks! To rearrange items on your hard drive, just open your copy of Forge, and away you go. —Ryan Edwards

Get Under Control, People!

As I wipe the tears from my eyes and get myself to stop hyperventilating, I must tell you that your magazine makes me laugh so hard I almost pee in my pants. If I was not on the other side of the country, I'd be on your doorstep, groveling piteously, begging for a job, willing to do anything just to get you to read my resume (even dance around in a Little Bo Peep outfit with Spam on my head, doing a Michael Bolton impersonation), and I'd take any job you had. You need gum scraped from the bottom of your chairs? I'd be your man. Someone to make rude finger gestures and noises which are obscenely biological at passing PC users? Hey, I'm all over it. I do that anyway. —Mat "I'd wear the black mock turtleneck, but Birkenstocks are right out" Broman

I can't believe it. I was sitting here playing Duke when a fly landed on my screen. I actually tried to kill it with my shotgun. After killing so many things, it was really weird to hit the fly dead on and not have it blow apart. I think it's time to take a break. —Kent P. Hull

Oh no! There are too many of them. The gnols—they are everywhere! Ahhhhhhhhh. Send in the dwarfs! Boom, boom, splat heheheahaha. Oh, um, sorry. I have been playing the Myth demo for 18 hours now and have beaten it 19 times. —Eric Litton

Why, Thank You!

You have the most moronic, dumb, and irrelevant letters of any magazine I have read yet. I like it. —Galen Panger

You just had to do a report on Easter eggs in the November issue. The moment my mother saw the cover was a classic: "Easter eggs! What are they doing with Easter eggs? It's bloody well November. I just don't understand." Even more reasons to subscribe to your glorious magazine—parental incompetence. —Nick Pernal

Yes, You Did

I tried a few of the 63 things that you suggested to do for my favorite Mac addict over the holidays, but I might have made a few mistakes: 1) (Suggestion #13) I hooked someone up to the Internet, though, unfortunately, I blew a port, so their computer—their brand-spanking new Power Mac 9600 (the one with 768MB of RAM, a couple of UltraSCSI 4GB hard drives, a 21-inch monitor, a built-in Jaz drive, and an already-set-up ISDN line)—crashed. 2) (Suggestion #21) I hooked one of their other Macs, their AV one, to the VCR. Unfortunately, the VCR started emitting smoke, and before I knew it, it blew up. 3) (Suggestion #22) I tried to do the chocolate Mac thing, but I couldn't get the chocolate dry in time, so I just poured it over the crashed Power Mac 9600 and threw the whole thing in the oven. I always wondered what a melted motherboard looked like. Unfortunately, this was not the time I wanted to find out. 4) (Suggestion #25) I built the shelving system. When I had put all of their Mac stuff on it, it looked beautiful. Then it collapsed. 5) (Displayed on page 40) I attempted to hang their Mac Quadra, with their greeting cards, on a string. Unfortunately, it crashed. No, literally. It fell to the ground and shattered. 6) (From "4 Collector's Items") I took the motherboard out of the shattered Quadra, framed it, and put it on the wall, although it would never really hang straight. Now I owe about $9,000 in damage done to their home, and I lost about $499 on the shelving. Did I mess up? —Greg Katz Jr.

Good Ideas...

Being a lone Mac addict here on the open plains of North Dakota, trying to survive a mostly Windows campus, I have found a way to leave my mark every time I get stuck using a Windows lab computer. Because all the computers are networked, and they all have Netscape on them, I usually go to Apple's "Think Different" Web site, grab the high-resolution black logo graphic, hold my right mouse button down on the machine's mouse, save it as wallpaper, and leave. This "different" graphic is perfectly sized to the monitor, so when the next user comes in, they see a black screen with the Apple logo and "Think Different" staring them in the face! I have also done this with other graphics, like the *MacAddict* logo and Mac OS 8 logo, but the "Think Different" logo looks the best. For other Mac addicts using windows computers in schools or business, do the wallpaper save, and give Apple some advertising where PC users would least expect it—on

This chainsaw was a birthday present to my brother-in-law, Michael, who (like me) is a Mac fanatic. He's currently using his new PowerMac with a big Mac OS grin on his face, as he chops down trees in the wilds of British Columbia while singing *The Lumberjack Song*. —Harvey Lubin

I'm 14, and I created this on a Mac in just an hour. That shows how easy a Mac is to use. —Dorian Gorski

I'm a graphic artist for a large trading card company. I also do Macintosh systems consulting. In my spare time (when I'm not sitting in front of my Mac), I fly model helicopters. And, of course, I just had to paint it up in Apple colors! The helicopter in the photo has a rotor span of 4 feet and weighs about 6 pounds. Cost? Well, let's just say I could buy another Mac with the money I've got invested in it. —Joe Beland

You Know You're a Mac Addict When...

...you think that computer compatibility problems refer to having different shades of platinum for your monitor, mouse, and computer. —John Pizzox

...your alarm clock and coffee maker are plugged into an outlet labeled Startup Items. —Ray Conforti

...your husband's name is Brett, but you decided to call him Mac because it sounds better. The worst part is that you like him more now. — Kimberly Lesser

...you're watching *Independence Day 4*, and you hold up your PowerBook to see the one in the movie. —Amy Augspurger

...on Thanksgiving you ask your Mom to serve StuffIt with your turkey! —Wysmar Clealand, Hollywood, Florida

...you answer the phone saying, "Welcome to Macintosh." —Marty Thomas, Guilford, Connecticut

...you order a 17-inch pizza and ask, "How many inches of that are viewable?" —Jerrod Hofferth

...you play a semester of football at Michigan University, then transfer to Alabama, and then transfer again to Colorado just so that you can have three school letters that spell out "MAC." —B. J. Leiby, Phoenixville, Pennsylvania

...you teach your kids all the versions of System software in order instead of letting them learn how to count. — J.T. Claydon

...you only take one bite from your apples. —Victor Milazzo, Caracas, Venezuela

a Windows desktop picture!! —Charles Schoeneberger

I thought of one more simple thing to do with sounds. In the Date & Time control panel, you can assign sounds to chime on the hour and on the quarter and half hours. Our Performa 6220 has all the sound files that I could download from the Warner Brothers Web site for the *Pinky and the Brain* cartoon. We have a different sound for each quarter hour. It's a real tension reliever to all of a sudden have one of these sound files play. —David Oosterhouse

...And a Lame Idea

Have you ever wanted to disable extensions and leave the room, but you had to stay to hold down that darned Shift key? Well, I've discovered the perfect solution: Take a little piece of tape and tape down the Shift key. Or (my favorite): Take a calculator with a hard flip lid and open it. Then balance the calculator so that the lip that sticks out of the back slides under the Return key. It should stay there. I don't know if this saved me any time, but if you feel like running around your house looking for tape or trying to get a calculator to stick to your Return key, have fun. But hey, what's being a Mac addict all about? —Ryan Edwards

Why, Neither Do We

I have no idea what Chr4is Wang-freaking-Iverson (Jan/98, p8) is complaining about. —f3red Preller

Sorry, Pal

I was reading your magazine, and it got me thinking. My head hurts. I don't think often. Please tone down the content of your magazine so this doesn't happen again. —Erik Goble Jr.

Here's what large amounts of Coca-Cola and junk food plus a lack of sunlight do to a human being...I created six copies of Jared and had them all running at the same time. This woke up my dog, who howled in pain at the noise. He will no longer come into the family room. The other animals in the house seemed unaffected by the noise, except the cat, who unplugged my Mac, causing me to lose the last remaining working piece of my brain. So FOR THE LOVE OF GOD, PLEASE MAKE THEM STOP SINGING THAT STUPID SONG!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! —Christine "macgirl" Feine

Will you guys please stop complaining about the Chooser? Come on. Maybe it's because I'm a PC convert, but I've seen nothing better. You go into the Chooser, and bam! All your networks and printers are right there. Want to select some printer on the other side of town but on your network? It's two clicks away! Windoze 95 can't do it that easily. Want to connect to someone else's computer? Once again, it's two clicks away! And it's so easy to set up. The Chooser is a little slow, but otherwise it's great. Come on—stop complaining! —Eric Harvieux

Where Do You People Come From???

And a moof moof here and a moof moof there, here a moof, there a moof, everywhere a moof moof. Old McDonald had a DOGCOW.... —Martin Bogart Drake, but you can call me M.B., Marty, Martin, Drake, Bo, Bogart, or anything else

Hey, how about a song? (Sing to the tune of *George of the Jungle*): Nort, Nort, Nort of the Hard Drive, Nort, Nort, Nort of the Hard Drive, Scanning *A* to *Z*, Nort, Nort, Nort of the Hard Drive, Watch out for that (B-)Tree!! —Alan "Big Al" Cordova, two miles from Paul Allen's house, Mercer Island, Washington

Or Not

If I were a mad scientist and used my Mac to invent a way to make it rain, then called the process Mac-a-raina, would I be a Mac addict? If I painted my Mac a dark, rusty-red color, I would call it Mac-aroon. If I invented elbow rests on my Mac, I could call them Elbow Mac-aroni. —Dan Vines, Fort Smith, Arkansas

Oh Sure. We Believe It.

U gUyZ stInK. I cAn'T bEliEve hOw mUCh YOu suK!!! I'vE bOuGhT yOuR maGaZiNe sIncE tHe FirSt IsSUe aNd I JuSt rEaLiZeD iT wAs fOr yOu sTuPiD sMaRtEr (And OfTeN tImeS cUtEr) MaCintOsH peOple!!!!! UstInK. —BiLL gAtES

Quit making fun of me! —Bill Gates

No

What gives? A few months ago I tell you that my trusty Mac is named Gromit. Imagine my reaction when, in the Norton Utilities review (Dec/97, p64), the Mac you used is also named Gromit. And with virtually the same hard drive icon! Isn't there some sort of legal recourse I can turn to? Imagine my Performa's confusion when it's walking down the street and someone shouts, 'Gromit!' but means the OTHER Mac. I tell you, you can't trust anyone. Although, there is always the possibility that you guys broke into my house and tested Norton on my Mac...at least you coulda left the copy, no? —Wladimir Labeikovsky

He Makes Us Shout, Too

I've never been very religious, but when I saw Father Jobs on the cover of the

January issue, it made me shout from the nearest rooftop (or, rather, a second-floor bedroom), "Praise the Lord and pass the Power Mac!" —Jeff Branch

It Was All a Plot

So, I get a special thanks in the MacAddict Index (Jan/98, p24). Does this also mean that I get a free subscription? Subscription aside, if good old Mr. Gates was worth $37,640,823,082 in October 1997, and he had been required to pay $1 million per day from that date, the number of years that he could pay that fine (accounting for leap years) is actually 103.06 (103.057), not 103.05. The year 2100 isn't a leap year. <grin> I know I'm being picky, but as a Berkeley grad, the last thing I need is a bunch of Stanfurd (sic) people claiming that Cal grads can't do simple math.... —Tom Cheney

Groan

Last week I saw this advertisement: "Macintosh PowerBook 2400c is feather-light at just 4.4 lbs!" OK, now come on. If there is a bird out there with a 4.4-pound feather, I'm going to eat my Zip drive. Maybe this is false advertisement. Maybe that really is considered "feather-light." Maybe I'd better just shut my mouth and do something with my life other than pick on misleading advertisements. —John Scott

I recently purchased a 233MHz G3 Power Macintosh. The mail-order staff couldn't say enough about it! "Oh yeah! It SMOKES!" they all assured me. Needless to say, I was grinning from ear to ear when my baby arrived in the mail, only to open the box, and stare in utter amazement: Imagine my surprise to see my new Power Mac chain-smoking a pack of DuMaurier Lights! Sure, her case is a little yellow now. She even coughs up a disk or two from time to time. And her life expectancy has been cut by at least 10 years. But I love her just the same. Looking back, things could have been a lot worse. I could have bought one of those new machines that *MacAddict* raved "KICKS A**." —Matthew Phillips

Awww

What in the world is System Error 11, and why is it picking on me? —Darrin McCowan, Bloomington, Illinois

Neither. Just Lucky.

Whoa! Two months ago, I said to myself as I was going outside to get the mail, "It would be cool if I got *MacAddict* today." And when I opened up the mailbox, there it was. Last month, I said the same thing to myself, and it happened again. This month (can you believe it), it came as soon as I said, "It's coming today." Am I psychic or just an addict connected via a mental link to the magazine? —Eric Rojas, South Pasadena, California

Dang It

In the February issue (p82), Buz Zoller says that "one glaring omission occurs in the contextual menu for the Trash. Why isn't there an option for Empty Trash when you Control-click on the Trash icon?" Now here's the thing—there *is* an Empty Trash contextual menu item! It only appears when there's *something in the trash!* —Kyle Smith

I was looking through your December '97 issue, and it had cheat codes for many popular games (p58). I noticed that the cheat that gives you cash in SimCity2000 was "Pirntopsguzzardo" and that it also worked if you typed "Topsguzzardo". This is not correct. The actual code is "Porntipsguzzardo" and if you want more, just type "ardo" as much as you like after that. —James Evins

We Were, Uh, Wrong

In the January issue (p60), we rated the TechWorks Power3D card as Spiffy, mainly due to its inelegant handling of mixing 3D objects in 2D applications. When asked to draw a 3D RAVE object in a nongame application, the card would take over the screen, rendering the object beautifully but rendering you helpless to return to 2D mode. To work around this, you had to reboot with a different extension set. TechWorks now has an extension available (the "3Dfx_2D3D_Swap"), at http://www1.techworks.com/products/power3d/support3d.html, which allows you to press Control-9 to get back to the 2D environment. As we said before, TechWorks' Power3D is the only choice for gamers, and this extension raises our rating of the card to Freakin' Awesome.

We goofed again in the January issue in the article "Then Utilities" (p22), when we said that "Casady & Greene's Conflict Catcher doesn't quite do what Now Startup Manager did." In fact, Conflict Catcher lets you set custom startup extension sets and even has other great features above and beyond Now Startup Manager, such as letting you identify extensions as their icons display onscreen during startup.

Buy C.

Brag about it.

Put it on your shelf.

Get frustrated.

Buy some books.

Try to learn it.

Pull your hair out.

Buy some more books.

Give up.

Now go buy

FutureBASIC

and get some

work done!

Discover the power

800-348-2623

STAZ SOFTWARE, Inc.

WWW.STAZSOFTWARE.COM

the disc

More than 600MB of delicious Mac mania to satisfy your every desire (well, almost).

CONFIG

Highlighting another aspect of our fabulous multimedia interface: It's the Config dialog! This handy window features every widget you'll need to configure our program to your needs. You can easily switch soundtracks—or mute the audio altogether—as well as choose a Web browser in which we'll display software pages. Do it once and you won't need to again—we store preferences in your System Folder.

TRY before you BUY 1997™
The Easiest Way to Buy Software

This Month's Inventory

Battle-Girl	Game	$34.95
CameraMan 3.0 NEW!	Utility/Graphics	$69.95
Cap'n Midnight VCR+ 1.0	Utility	$37.00
Duke It Out in D.C.	Game	$19.99
FlashBack 1.0	Utility	$29.95
GearBox 1.5 NEW!	Internet	$44.95
Graphic Converter 3.0.2 NEW!	Graphics	$35.00
Quake NEW!	Game	$46.00
ScrapDiary 1.0 NEW!	Productivity	$20.00
ShrinkWrap 3.0	Utility	$30.00
Square One 4.0	Utility	$39.95
TCalc 1.0	Video editing	$27.00
Web Archer 1.01	Internet	$29.95

Despite Wade losing an *entire* week of production to the loss of a Jaz drive—a drive which IS had *allegedly* sent back to Iomega—and then another *entire* week for winter holidays, our feisty CD-ROM editor was still able to gather some pretty sweet programs for your enjoyment. For instance, exclusively on the *MacAddict* disc is a demo of The Forgotten (see page 13). Or you can buy Quake through the Try Before You Buy software store. And don't miss the outtakes from last month's *It's a Wonderful Mac* movie masterpiece! —*KT*

GETTING STARTED

1. **Pop The Disc into your CD-ROM drive.**
2. **Double-click the *MacAddict* Tour icon for PowerPC or 68K Macintosh.**
3. **Have fun!**

REQUIREMENTS

Any Mac can access the shareware, demos, and System software from the Finder. Accessing the full CD-ROM interface requires 12MB of real RAM with System 7.1 or earlier, or 16MB of real RAM with System 7.5 or later.

GETTING HELP: Problems with The Disc? Go to http://support.imagine-inc.com.

OUR DISC SPONSORS

To find immediate information from our sponsors, go to the Index (Option-click any help screen). Or you can wait until you see a message from them in the lower right-hand corner of the main screen. Clicking on the message causes a TV screen to slide down from the top of the page, showcasing more information. You also can access sponsor information from the main window in the Finder.

Aspyr Media—Carmageddon

888-212-7787
http://www.aspyr.com
Pit your wits and wheels against 25 maniac drivers each featuring accurate driving physics and realistic collision damage, or multiplayer mode. Thirty-six fully navigable stomach-churning race circuits and five different race environments feature complete freedom of movement in your quest to become Prince of the Pileup. Waste contestants, pedestrians, and farmyard animals for credits... Exchange credits for damage repair or cool features...Crash, crumple, burn, skid, and jump in glorious 3D...Pedestrians=Points.

Bungie—Myth

800-295-0060
http://www.bungie.com
Myth is a tactical-level game of epic battle set in a fantasy world. A multimetric game, Myth gives gamers unprecedented freedom to view the terrain and their forces, orbiting around their heads or zooming in for a close-up. Mastery of formations and disciplined movement of armies is critical to success. Myth features cross-platform networking, while Bungie's MetaServer system makes Internet play simple. Myth includes maps designed for networking and alternate networking scenarios such as the split-second action of Steal the Bacon and the brutal melee of Last Man on the Hill.

EarthLink—TotalAccess

800-395-8425
http://www.earthlink.net
TotalAccess is EarthLink's complete software and Internet connection package. It includes Netscape Navigator, award-winning Internet access software, and everything needed to register for complete Internet access in fewer than five minutes. After the $25 setup fee, unlimited access is provided for $19.95 per month. 'Round-the-clock tech support is provided via an 800 number.

Europa Software—Web Quick

http://www.europasoftware.com
Frustrated by Bookmarks? Web Quick tracks every page you visit and automatically organizes them by site. It lets you create custom topics—and keeps them all at your fingertips with handy pop-up menus. Web Quick even converts existing Bookmarks. No wonder *MacWEEK* called it "the first Web utility that is essential"!

MacSoft— Deadlock

800-229-2714
http://www.wizworks.com/macsoft
Only one race will survive. Time is short. Seven alien races struggle to build their empires, but only one will dominate. In Deadlock, every decision you make determines the ultimate fate of your people, your empire, and your survival. This is the incredible strategy game of interplanetary conquest.

Newer Technology

316-943-0222
http://www.newertech.com
SpellTools Software v1.3.2
SpellTools has to be the industry's most useful set of text tools and spell checker. Add functionality to nearly every program you use. Use one editable dictionary for nearly every program, hear what you type, use the rubber stamp to quickly place often-used text, and say bye-bye to scrambled email!

Gauge Series
These gauges test and diagnose your Macintosh computer. Clockometer—CPU type and the exact speed. Cache-22—Amount of L1 and L2 cache is in your PowerPC. RAMometer—Tests the memory in your Mac. SCSI Info—Information about every SCSI device connected internally, or externally, to your Mac. Slot Info—Information about all cards plugged into your Mac.

STAZ Software—Classroom Publisher

800-348-2623
http://www.stazsoftware.com
Classroom Publisher is a desktop publishing program designed with schools, teachers, and students in mind. It allows anyone to quickly and easily create calendars, clip art, greeting cards, and all kinds of reports, banners, and stationery without even picking up a manual! It was written in the world's fastest Basic compiler—FutureBASIC, also sold by STAZ Software. See the Our Sponsors section on The Disc for more information.

TechWorks—Power3D and PowerCPU

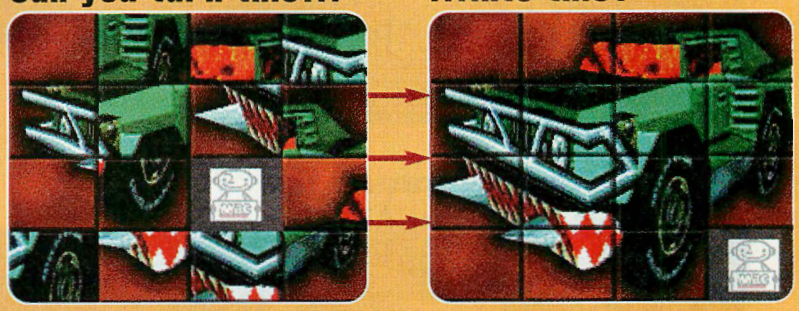
800-688-7466
http://www.techworks.com
Upgrade your PowerPC to a Power Arcade! The Power3D card is dedicated to bringing you the best performance available for Mac OS 3D games. Most 3D computer graphics solutions try to be all things to all people. No compromises here. The Power3D was designed for one thing only, and that is great games! This is truly the most awesome gaming card available on the Mac! The Power3D does not replace your 2D graphics, it works with your existing graphics card to provide you the absolute in 3D performance. Install the Power3D in your PowerPC (requires one available PCI slot in your system) and use the provided pass-through cable to turn your PowerPC into a Power Arcade system!

CONTEST

Win!Win!Win!Win!Win!Win!

Get your very own CARMAGEDDON! To get to the contest, open the index window, and click on *contest.* When you solve the puzzle, the CD-ROM will give you a code. Enter this code at the Web site for your chance to win Aspyr Media's Carmageddon. (And even if you don't win, you can play the demo on The Disc!)

Can you turn this... **...into this?**



BENCHMARK TWISTS

On The Disc, in the From MacAddict folder, is a folder called Photoshop Speed Test, which accompanies our review of Apple's G3 Power Macintoshes (page 54). In this folder are the Norton Utilities benchmarks, plus the Photoshop 4.0 action file and the TIFF upon which we performed the action (yes, it's a TIFF of da man himself, Steve Jobs) used in our tests. The Read Me file encourages you to open the files from the CD-ROM. It's fine to do this, but be sure that Photoshop has enough scratch disk space. (The file is 14.8MB.)

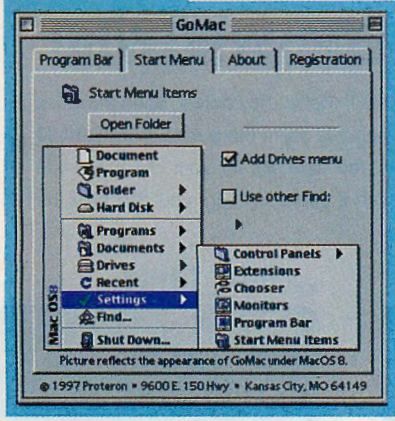
GAME DEMO
The Forgotten

You are an amnesiac who has just woken up in New Orleans, pursued by something inhuman. After finding a mysterious letter from someone named Richard, you run into the darkened streets in search of who you are and where *they* are. This Myst-like mystery whets your appetite for more as you discover an occultist's shop reminiscent of Marie Laveau complete with mysterious altars, clocks running backward, and secret passageways. Spooky! —*JG*

MacAddict19:Software:Commercial Demos:The Forgotten™-Demo

the disc

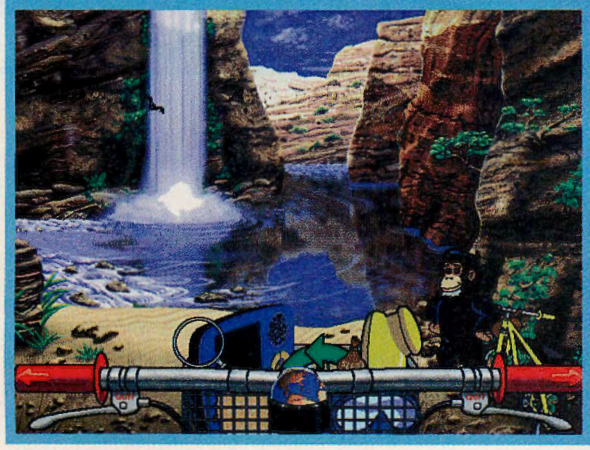
UTILITY
GoMac



If you want a Windows-style Program Bar, Start Menu, and Keyboard Switcher, here's what you're looking for. Now you can access any program, drive, file, or document from the Start Menu on the Program Bar at the bottom of your screen. The Program Bar also displays all your open applications with a handy clock and a pop-up calendar. The Keyboard Switcher allows you to see, in a single dialog box, all the applications that you have open . —*JG*

MacAddict:Software:User Interface:GoMac 1.4.4

KIDZ STUFF
Jubilee's Journey



Take a tour of the places you can ride in the full version of Jubilee's Journey. Also in the demo are limited versions of the games included in the title. Particularly compelling is a jigsaw puzzle that becomes a QuickTime movie as you fill in the pieces. This Jubilee's Journey definitely presents the environmentalist's point of view (being associated with the Jane Goodall Institute), so the more conservative readers may want to just say no. —*KT*

MacAddict:Software:Commercial Demos:JJ Demo

GORY GAME
Carmageddon

Vroom Vroom! Splat Splat! Wheel around a big city gathering points by hitting pedestrians. Extra points for style or hitting multiple peds at a time. Parents, this is a particularly violent game (with sick and twisted humor). Note: There is no installer for Carmageddon, but do not run the game from the CD. It doesn't work. Instead, copy it to your hard disk.

MacAddict:Sponsor Demos:Aspyr Media:Carmageddon Demo

DA WINNER!

Terrone Carpenter won December's contest. Terrone will be the proud owner of one *MacAddict*'s few remaining sealed copies of issue number one. Bidders anyone? (And no, the other five are not available.)

FUN AND GAMES

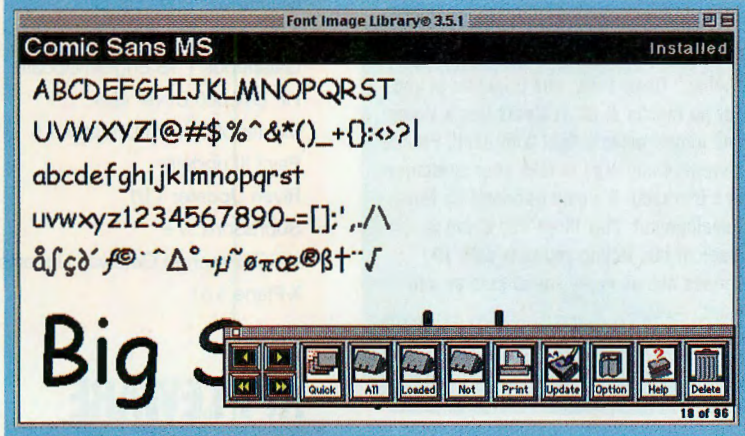
Avalon 2029
Bubblomania 1.5
Burning Monkey Solitaire 1.0
Cobra Gunship 1.2
CrossCards 1.0
FreeVerse Toys

APPLE SOFTWARE

Apple CD-ROM 5.4.img
AppleShare Client ZM-3.7.2.img
CFM-68K 4.0.img
Disk Copy 6.1.3
Drive Setup 1.3.1.img
G3 Ethernet 2.0.1.img
Hypercard
MRJ 2
Open Transport 1.1.2
PCI Timing Update 1.0.img
PlainTalk 1.4.1
QuickDraw 3D 1.5.3
SCSI Manager Update 1.2.img

FONT CATALOG SOFTWARE

Font Image Library

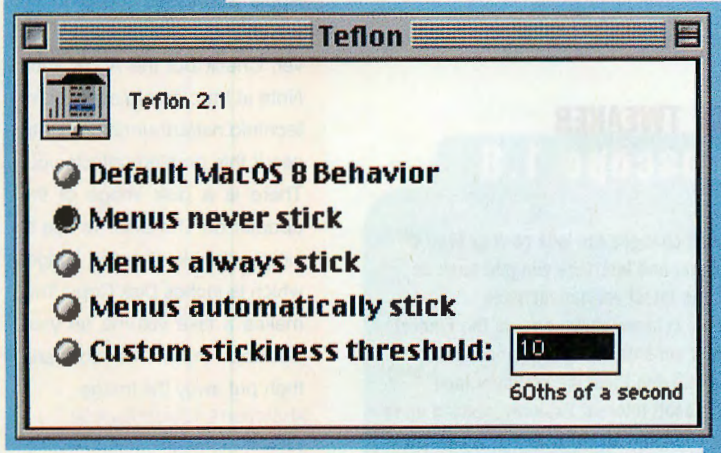


Never again will some poor drudge (you) have to type, "The quick brown fox jumped over the lazy dog" 10 million times to preview each font for your desktop publishing project. This handy piece of software does the entire job for you and even prints samples of each one in a list that you can keep handy while you work. —*JG*

MacAddict19:Software: Graphic & Sound:Font Image Library 3.5.1

OS 8 UTILITY

Teflon



The latest incarnation of Teflon allows major micromanagement that would make even the most compulsive mousers happy, by allowing you to control the stickiness of your pull-down menus. Choices include returning to the old-fashioned nonstick of System7.x and earlier, as well as "Always stick" or "Menus automatically stick." Great for those with RSI. —*JG*

MacAddict19:Software:User Interface:Teflon 2.1

BIZARRE TOY

Jared Choir

Jared is back—WITH FRIENDS! Simply choose the command Sing, Jared, Sing! from the File menu to hear four Jareds singing slightly out of synch. When you can't stand it anymore, just choose Stop, Jared, Stop! You also can customize the number of Jareds—from four to 10—and choose whether the yellow heads are siblings, wannabes, or wackos. —*JG*

MacAddict19:Software:Fun & Games:FreeVerse Toys:Jared Choir

MORE UTILITIES

CopyPaste 4.0.5
Dialog View 2.3
DoubleScroll 2.2
GoMac 1.4.4
ImageUtilities CMM
MovieUtilities CMM
PrintChoice 1.4
Smart Scroll 3.1

GRAPHICS AND SOUND

A Smaller GIF 1.07
Agent Audio 1.2
AhiTek 1.5.3
AhiTek Gold 1.6
AhiTek SVR
AhiTek Tidbits 2.0
Clixsounds
DSP Screen Collection V6
Folder Icon Cleaner 2.0.2
Folder Icon Maker 1.5
Font Image Library 3.5.1
FontBook 3.1
Gif•glf•giF 1.23
GrafEq 2.03
Itsagif 0.95
MacGhostScript 5.10
Mike's PowerMac Icons v98
SoundExtractor 1.31
zeds Simple Collection 2.05

the disc

SOUND UTILITY DEMO

Kaboom!

Press Return, and your computer says "boing." Open a file, and it laughs at you. For no reason at all, it bleats like a sheep and noisily picks a fight with itself. Please disregard any urge to take your computer to a therapist. It's only Kaboom! by Nova Development. This three-day demo is loads of fun, letting you play with 10 sounds and as many sound sets as you want. *—JG*

MacAddict19:Software:Commercial Demos:Kaboom! 3.0

WEB BROWSER

Microsoft Internet Explorer 4.0

Explorer gets better with every iteration. New features include a nifty tab bar running along the left side of a browser window. Roll your mouse over a tab, and a listing of favorites or history (that doesn't get erased when you quit) pops up. We do wish that Microsoft would add Back and Forward to the contextual menu pop-up, and that the default in that menu would open the link instead of opening a help page. The jury's still out on whether Explorer 4 crashes less than Netscape Navigator 4, but early testing gives Explorer the edge on stability. Oh yeah, don't forget to sign up for *MacAddict's* Active Channel at http://www.macaddict.com/splash.html.

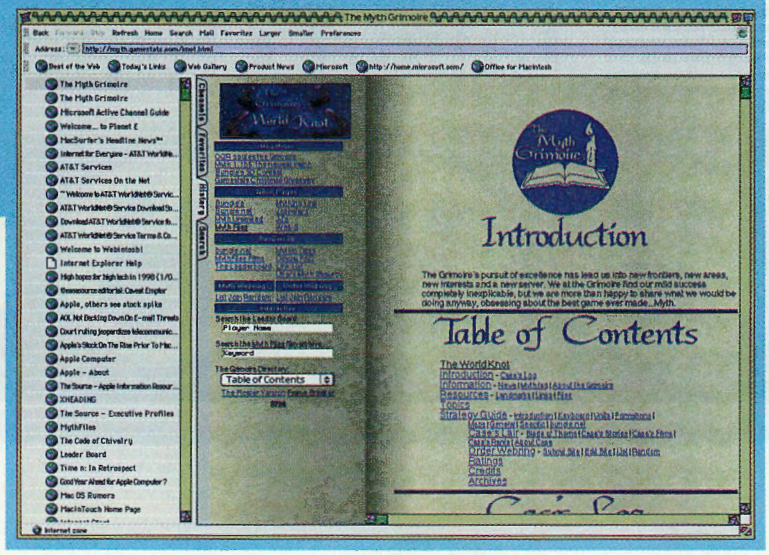
MacAddict19:Software:Microsoft:IE 4.0 Full PPC installer

INTERFACE TWEAKER

Kaleidoscope 1.8

Kaleidoscope changes the look of your Mac's windows, menus, and interface widgets such as checkboxes. The latest version includes AppleScriptable scheme changing (via the Finder) and a System 7 scheme that works under Mac OS 8, in case you don't like the platinum look. Check out Microsoft Internet Explorer gussied up in Patricia Lillie's Lounge Lizard scheme, which we found on the Kaleidoscope Scheme Archive, available for purchase at https://ssl4.pair.com/sitelink/order/SiteLinkOrderForm.phtml! *—KT*

MacAddict19:Software:User Interface:Kaleidoscope 1.8



UPDATERS

ClarisDraw 1.0v4 Updater
Fallout Updater 1.1
Galapagos 1.1B English Updater
HP DW 600 Driver v9.4
Master of Orion II Updates 1.5
Paint It!.updater
Riven Updater 1.01
SupraSonic V+
VICOM Internet Gateway Updates
X-Plane 3.61

APPLEWARE

For those experiencing problems connecting a Power Macintosh G3 to an auto-sensing Ethernet hub, Apple addressed the problem with the G3 Ethernet 2.0.1 driver. Check out the Apple Tech Note at http://til.info.apple.com/techinfo.nsf/artnum/n22119 to see if this problem affects you. There is a disk image of the updater on The Disc. To use it, simply double-click the image, which launches Disk Copy. This makes a fake volume on your desktop. Install the software, then put away the image.

MacAddict19:Software:Apple:G3 Ethernet 2.0.1.img

FEBRUARY/MARCH

By Mark Simmons

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
16 We have Presidents Day off. Ha ha! (Don't forget your special valentine on the 14th. Give your Mac a kiss and celebrate that Macintosh **love**.)	**17** Well, we're back, and what better way to get reacquainted than with another of our trademark **Web Exclusives?**	**18** We've said our piece, now it's your turn. We empty the ***MacAddict* Mailbag** to see what readers are saying this week.	**19** In 1986, the shiny, new space station **Mir** was launched into orbit. Our venerable Shareware Pick of the Week stands the test of time a bit better.	**20** We're all about **touchy-feely** this week. Let's get closer with another *MacAddict* poll.
23 Our theme for this week? Violent **insurrection**. We'll kick off with a Site of the Week that pulls no punches.	**24** Not only is it Mexican Independence Day, but the **Russian Revolution** kicked off today in 1917. We'll showcase appropriate propaganda in our Reader Art Gallery.	**25** *Viva la revolución!* Share your revolutionary ideas for pro-Mac action in the ***MacAddict* Mailbag**.	**26** On this day in 1848, Karl Marx and Friedrich Engels published the *Communist Manifesto.* Today, we publish our **Shareware Pick of the Week.** Coincidence? We think not!	**27** **Smash the system!** Read our latest Web Exclusive and break the chains of oppression!
2 Our Site of the Week honors **Lou Reed's** birthday (1944) with a Walk on the Wild Site.	**3** One year after Apple **killed** QuickDraw GX printing, we send our May issue to the old-fashioned kind of printing press. Sneak preview, anyone?	**4** On this day in 1933, FDR told us that we **have nothing to fear but fear itself.** So we expect no sniveling in this week's *MacAddict* Mailbag.	**5** We're between paydays, so our pockets are feeling a **little empty.** Join us in miserdom as we select a Freeware Pick of the Week.	**6** How better to commemorate **Michelangelo's birth** (1475) than with another Reader Art Gallery installation? Bring your own wine and cheese.
9 In the spirit of internationalism, we survey the Web sites of Apple's **dozens of overseas** branches and choose our favorite Worldwide Apple Site of the Week. *De nada.*	**10** Break out the **whips and chains**, it's time to extract another Web Exclusive from our wary staff. Don't make us bring out the thumbscrews, people.	**11** Happy birthday to droll AppleMaster **Douglas Adams** (1952). Let's see how funny *you* can be in this week's *MacAddict* Mailbag.	**12** We tried it, we buyed it: This week, a **Shareware Pick of the Week** we liked so much we paid for it. Now *that's* the sincerest form of flattery.	**13** Tomorrow's the anniversary of both the Power Mac's 1994 launch and 1997's **bloody technology cuts.** Plus, tonight's a full moon. Who knows what may result from this eerie convergence?

As feature-packed as this Web Calendar may be,
it's just part of the good nutritious diet of news, info, and weird amusement that awaits you each day at...
http://www.macaddict.com.

get info

More Microsoft bashing; Mac OS 8 tips; win CodeWarrior; the MacAddict Index

The Great OS 8 Update

"Bride of Buster" blushes beautiful with bevy of updates

FIND MORE INFO about Apple's System software at http://macos.apple.com (or use shortcut macos from apple.com).

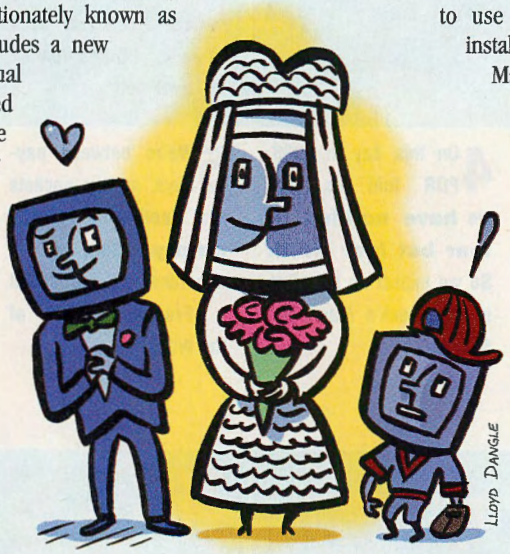
No question about it: Mac OS 8 kicked some serious butt last year. But that wasn't enough for the good engineers at Apple. Those folks have labored long to give us a treat that should tide us Mac addicts over until Allegro's release this summer. The fruit of their labor? Mac OS 8.1. Don't let the ".1" fool you; this is more than just a bug fix. Mac OS 8.1, affectionately known as "Bride of Buster," includes a new drive format, better virtual memory, and improved Java. Best of all, the update can be had for free—for those who already own Mac OS 8, that is.

Sequoia Stands Tall

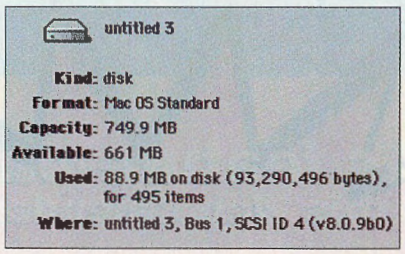
The most noticeable difference in Mac OS 8.1 is Mac HFS+. If you have lots of files on a fairly large hard drive (say 1GB or larger), Apple figures that, by switching over to HFS+, you will be able to reclaim up to 20 percent of the space on your hard drive. Although HFS+ does some other nifty things that most Mac folks won't use (such as put more than 2 billion files on a single volume or have a single 2,000GB file), it also includes Unicode as its text standard. That doesn't mean much right now, but it paves the way for longer file names and better support for languages other than English.

The downside to HFS+? First, it's understood by only Mac OS 8.1 or later. If an HFS+ volume is used with Mac OS 8.0, all that will be visible is a tiny partition with a Read Me file entitled "What happened to my files...?" Second, HFS+ will break some third-party disk utilities, but those are in the process of being updated, so expect them to work with HFS+ soon. Third, 68K-based Macs can't use an HFS+ drive as a startup drive or as virtual memory storage. It looks as though this may be the last hurrah for the 68K and new versions of the Mac OS.

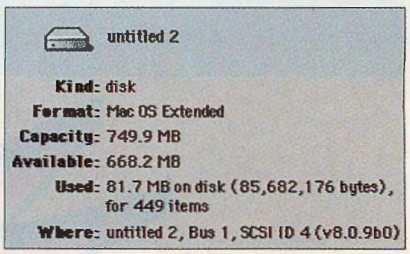
It's not necessary to use HFS+ to install and use Mac OS 8.1, which is a good thing.



To make the switch, you'll have to reformat your drive, which can be a big pain. If you have a Power Mac with a hard drive larger than 1GB, it might be a good idea to make the switch to HFS+. If you're still using a 68K-based Mac, stick with HFS.



UNDER HFS, even Macintoshes with small hard drives typically have lots of space that is wasted.



WITH HFS+ (there's a new Format: entry that reads Mac OS Extended), a nearly identical disk has nearly 10 extra megabytes of free space.

Mac OS 8.1 in a Nutshell

- HFS+ file system
- Universal Disk Format
- Open Transport 1.3
- Bug fixes
- Microsoft Internet Explorer as default browser
- Mac OS Runtime for Java 2.0
- Speed improvements
- LaserWriter 8.5.1
- PC Exchange 2.2
- Apple Location Manager 2.0
- New sound driver architecture
- Increase of approximately 1MB in memory footprint

Faster, Stronger

Mac OS 8.1 includes the usual passel of bug fixes and performance improvements. Virtual memory has been improved yet again (bravo, VM folks!). With virtual memory on, applications will launch and relaunch faster, sometimes saving several seconds in launch time if you launch an application a second time shortly after having quit it. Mac OS 8.1 also has an improved disk cache and a new math library, both of which should add some oomph to your Mac.

It's not all about speed, though. Apple says it made more than 200 improvements to the Finder and the Appearance Manager. The flashing question mark issue (certain Macs, such as Apple's Performa 5400 and 6400 series and Power Computing's PowerBase series, were plagued with a mysterious flashing question mark when restarting) is completely resolved. The affected Macs will start properly under Mac OS 8.1. The Finder's copying speed and multiple file system mounting also are improved.

New Pieces

Mac OS 8.1 introduces several new Apple software components. Mac OS Runtime for Java (MRJ) 2.0 brings the Mac OS up to Java parity. MRJ 2.0 is 100 percent pure Java, and it brings JDK 1.1.3 support to the Macintosh. Mac OS 8.1 also includes a 68K Just-In-Time compiler to really speed things up for 68K Java heads.

Java isn't the only piece of Apple software to get a digital face lift in Mac OS 8.1. Open Transport has been bumped to version 1.3. This revision to Apple's networking layer includes better performance and single-link multihoming. Also on the update list is Location Manager 2.0, QuickDraw 3D 1.5.3, PC Exchange 2.2, and a new sound driver architecture.

Finally, Mac OS 8.1 is the first Macintosh operating system to include Microsoft Internet Explorer as the default browser, as was foretold at Macworld Boston last August. This matters only in a clean install done from the Mac OS 8.1 CD-ROM or on new Macintosh systems. If a user upgrades from Mac OS 8.0 or uses the downloadable Mac OS 8.1 updater, the user's browser is not changed.

How to Get It

Mac OS 8.1 is available in a few different forms. Those who already own Mac OS 8 and want Mac OS 8.1 can download the update from the Web for free, or they can order the update on CD-ROM from Apple for only $19.95 (to cover shipping). Those who want the whole 8.1 enchilada and don't already own Mac OS 8 can buy Mac OS 8.1 for the regular retail price of $99. Look for the Mac OS 8.1 updater on The Disc soon.

Anyone who can use Mac OS 8 should upgrade to Mac OS 8.1. The upgraded components and all the bug fixes are worth the price (nothing). Those who own Power Macs and have a hard drive larger than 1GB should also take advantage of HFS+. If you have a 68K Mac, though, the HFS+ drive format isn't going to do you much good. —*DR*

Mac OS 8 Still Great

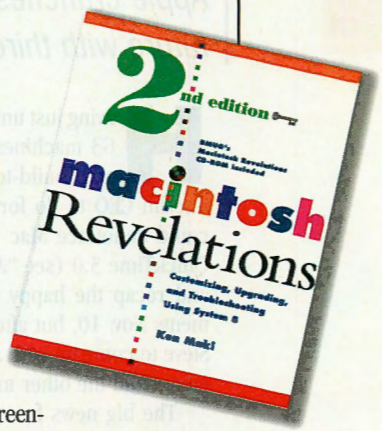
Read all about it in three new books

get info

How do you tell if a technology is worth anything? By the amount of shelf space devoted to it in bookstores, of course. The Mac OS 8 section has been pretty bare for the past few months but is beginning to get populated by offerings from some well-known Mac experts. We look at three new Mac OS 8 books now and promise more as they come to us. —*KT*

Macintosh Revelations, 2nd Edition

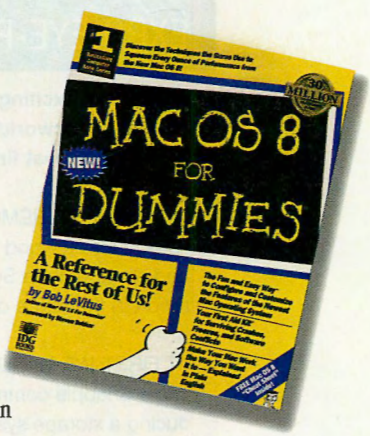
AUTHOR: Ken Maki
PUBLISHER: Wiley Computer Publishing
CONTACT: http://www.wiley.com/compbooks
ISBN: 0-471-19563-4
PRICE: $44.99



You get what you pay for, and that's certainly the case with the second edition of *Macintosh Revelations,* which explains how the Mac works, from hardware to software, in clear language. More technical information is offered for those who want it, down to explaining even what memory registers are. Screenshots have been upgraded with the Mac OS appearance; they add to the text rather than confuse it. Maki goes beyond introductory material to give a thorough explanation of AppleScript. The accompanying CD-ROM produced by BMUG, the Berkeley Macintosh Users Group, might not have the latest versions, but it has almost every kind of shareware imaginable. *Macintosh Revelations* is a book that will teach even experts a trick or two.

Mac OS 8 for Dummies

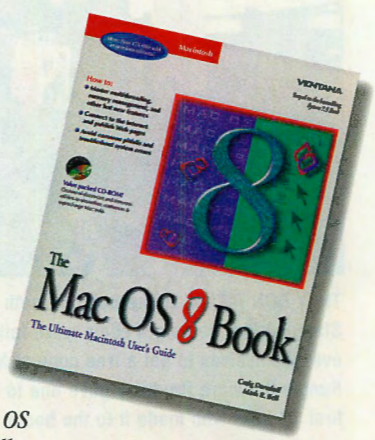
AUTHOR: Bob LeVitus
PUBLISHER: IDG Books
CONTACT: 800-762-2974 or 317-596-5546 (in Canada, 800-667-1115 or 416-293-8464), http://www.dummies.com
ISBN: 0-7645-0271-9
PRICE: $19.99



Buy this book for the newbie on your block. In clear, noncondescending language, LeVitus guides the new user through the features of Mac OS 8. His troubleshooting section is worthwhile for all users, but the tone is definitely for those unfamiliar with the Mac. LeVitus makes you grin when others make you grimace.

The Mac OS 8 Book

AUTHORS: Craig Danuloff and Mark R. Bell
PUBLISHER: Ventana Communications Group
CONTACT: 800-332-7450 or 919-544-0404, http://www.vmedia.com
ISBN: 1-56604-688-2
PRICE: $34.99



A bit pricier than the *Dummies* title, *The Mac OS 8 Book* includes a CD-ROM, is about a hundred pages longer, and has somewhat more advanced information. Unfortunately, the book is poorly organized, with screenshots in weird places. For instance, a Find File dialog window is placed in the middle of a discussion of new Finder menus. *The Mac OS 8 Book* presents a lot of information but doesn't present it well.

get info

Steve Sez: Think Profit

Apple crunches a profit and takes a shine to a healthy future with third-party developers

Having just unveiled a triple-threat combo of speedy G3 machines last November, online direct sales, and build-to-order manufacturing, what's a poor interim CEO to do for a Macworld Expo keynote? Oh, sure, you could announce Mac OS 8.1, provide a drool-inducing demo of QuickTime 3.0 (see "A Grand Day Out for QuickTime 3.0," p21), and recap the happy developments that followed the announcements Nov. 10, but after that, the well starts to run dry. Leave it to Steve to come up with a couple of tricks—one unexpectedly heartening, and the other more subtle but no less significant.

The big news from Steve Jobs' Expo keynote was Apple's surprise first-quarter profit. Frantically number-crunching through the night, the company's accountants determined that Apple actually broke even in its last quarter, eking out a $45 million profit on revenue of $1.575 billion. While Apple's income is still dwindling both year to year and quarter to quarter, it appears that the famous penny-pinching of the Jobs Regime is actually working, trimming enough from Apple's expenses that it can get back in black even at this low revenue ebb.

Looking ahead, cautious optimism may be in order. Jobs reported stronger-than-expected sales of Apple's G3 product line, with 133,000 sold in the first 50 days of availability—well above the company's estimate of 80,000. The early results from its online store and from the CompUSA store-within-a-store boutiques also are promising: The latter have boosted the Mac from a meager 3 percent to a robust 14 percent of unit sales in the stores that have undergone the Apple-friendly makeover.

A more subtle message of the Expo keynote was its heavy emphasis on third-party developers. Jobs wrapped up the Apple-focused portion of the event in a brisk 35 minutes, then turned the stage over to a parade of cutting-edge products for the remaining 45. Keynote attendees salivated en masse over Microsoft Office 98, Macromedia's Dreamweaver, and Red Orb Entertainment's Riven: The Sequel to Myst, and feigned polite interest in Oracle's suite of client-server business tools. Not only were the demos compelling and the demonstrators enthusiastic, but the product selection itself sent a message: Whether the arena is business, games, or cutting-edge Internet authoring, the Mac is hanging in there with the best of 'em.

Wrapping up the proceedings with a video montage of nifty Mac products and third-party developer testimonials (even Bill Gates showed up, clutching a Microsoft Office 98 box), Jobs reminded the audience to check out the 50-plus new products being debuted at the show, then stepped back onstage at the last minute to deliver his profitability bombshell.

For a presentation largely devoid of technological flash and juicy Apple announcements, Jobs' second Macworld keynote still said plenty about the future of the Mac platform: Apple is running itself like a business, selling great machines, and maybe even making some money, but the great products that run on those machines are the stars of the show. —*MS*

EXPO EYE-POPPERS!

It's always exciting to see what turns heads at Macworld Expo. These products made great first impressions:

THE ORB IS A REMOVABLE STORAGE SYSTEM from the folks at Castlewood Systems. The system is faster, smaller, and cheaper than Syquest Technology's Jaz system. We'll report in the future on its reliability.

AT FIRST, WE THOUGHT WE HAD BEEN TRANSPORTED into a Snapple commercial. No, it was just Iomega introducing a storage system for digital cameras. The Clik was accompanied by hand-held poppers, making Iomega paraphernalia not only a visual but an audio distraction.

THEY DON'T CALL IT the Bungie Booth Stampede for nothing. People were falling over themselves to get a free copy of Myth. Bungie Software Products gave one to the first 10 folks who made it to the booth opening day.

WEBCHARGER FROM EMBLAZE makes your Web graphics really, really small. We're not exactly sure *how,* though.

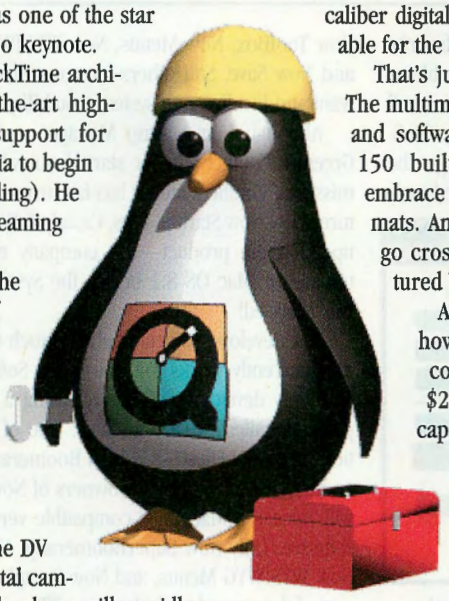
AND INTO THE HEART OF THE SAN FRANCISCO house scene, ATI Technologies brought in a club kid to rave about the company's RAVE cards. Get down, get funky.

A Grand Day Out for QuickTime 3.0

Apple core technology goes state of the art

Along with Apple's surprise profit and the public debut of Microsoft Office 98, QuickTime 3.0 was one of the star attractions of this year's Macworld Expo keynote.

In an extensive show and tell, senior QuickTime architect Peter Hoddie demonstrated its state-of-the-art high-quality compression technology and its support for streaming audio and video (which allows media to begin playing while still in the process of downloading). He also noted that QuickTime 3.0 provides this streaming feature without requiring a special server.



In many cases, Apple has reached beyond the confines of the Cupertino campus in search of QuickTime technology. New in QuickTime 3.0 are music compression by QDesign, PureVoice voice compression by Qualcomm, and a fabulous new video compression technology jointly developed by Apple and Sorenson Vision that promises to do away with the venerable Cinepak compression.

Apple is also throwing its weight behind the DV video format used by Sony's top-of-the-line digital camcorders, with the expectation that the technology will rapidly become inexpensive and ubiquitous. Thus, QuickTime 3.0 provides a complete food chain of image quality from professional-caliber digital video down to low-bandwidth video suitable for the slowest modem connection.

That's just the tip of the QuickTime 3.0 iceberg. The multimedia software also will support hardware- and software-based visual effects, with more than 150 built-in effects and transitions, and will embrace a host of new and upcoming media formats. And, at long last, QuickTime authoring will go cross-platform with the release of a fully featured Windows version.

All this power won't come without a price, however. In order to recoup the development costs for QuickTime, Apple plans to charge $29.99 for the "pro" version with authoring capabilities; the playback-only version will remain free. As of this writing, the release date for QuickTime 3.0 isn't set, but a public beta incorporating the QDesign, Qualcomm, and Apple-Sorenson compression technology is available from http://www.apple.com/quicktime/preview. —*MS*

get info

MORE INFO ABOUT QUICKTIME 3.0 can be found on Apple's Web site at http://www.apple.com/quicktime.

Expo Gems

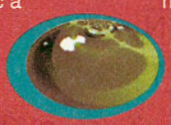
Twice a year, we get bright, shiny new baubles to play with

It's that time of year again. No, the holidays are long gone—it's time for you to spend money on yourself now! And there's no better time to do it than after a Macworld Expo, when everybody has spiffy, exciting Mac wares.

Surf Express

Connectix has hacked up another utility that cleans up after other companies' bad bloat. Browser vendors spent the last four years adding feature after feature, instead of making the underlying technology work better. Currently, your browser stores every graphic and text file it downloads into separate files, wasting tons of space. Cache cleanup is pretty lame, too: It removes the oldest files first—the ones you probably go to most. Surf Express promises to make your Web browsing faster by using an intelligent cache. It stores information in a flat file database, giving the Mac a break by using one file instead of thousands, thereby taking up less space on the hard drive. That database also remembers where you go most. Surf Express can speed 28.8Kbps modems to anywhere from three to 36 times your regular surfing rate. Surf Express is available for both 68040- and PowerPC-based Macintoshes for a street price of $34.95, and it works with Netscape Navigator and Microsoft Internet Explorer versions 3.0 and later. Contact Connectix at 800-950-5880 or 650-571-5100, or go to http://www.connectix.com.

MAXpowr G3 for the Power Mac 6100/7100/8100



Apple never intended for you to be able to upgrade the original Power Macintoshes. They were machines rushed to get out the door to take advantage of the PowerPC chip. Now members from the original team (who had left Apple to work for Power Computing) have figured out a way to breathe new life into the more than 2.2 million Macs manufactured in that line. The MAXpowr G3 upgrade card comes in two flavors: one at 210MHz for $499 and one at 240MHz for $699. That's right, kids; for well under a thousand dollars, you, too, can experience the joy—no, raw speed—of the third-generation PowerPC chip! Contact Newer Technology at 800-678-3726 or 316-943-0222, or go to http://www.newertech.com.

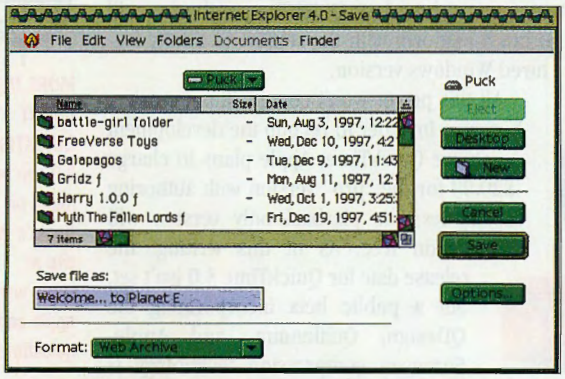
get info

Then Utilities, Part Deux

Many of you wrote in with your favorite workarounds to Now Software's problems with Mac OS 8. You pointed out that not all of the Now Utilities are incompatible with Mac OS 8. Some of you went back to version 5.0.1 to get the functionality you need, while others enabled only Now ToolBox, Now Menus, Now WYSIWYG Menus, and Now Save. Still others have installed what you want and just live with system instability.

Although Now Startup Manager and Casady & Greene's Conflict Catcher started out with different missions, Conflict Catcher has far surpassed the feature set of Now Startup. Plus, Casady & Greene is still updating the product—the company released an update for Mac OS 8.1 before the System software was released!

The development team behind much of Now Utilities currently works for Power On Software. This Mac-only developer will be releasing a new utility package called ACTION Utilities. One of these utilities—ACTION Files—will be a Boomerang replacement. Qualcomm, the new owners of Now Software, will release a Mac OS 8-compatible version of the software. Only Now SuperBoomerang, Now Menus, Now WYSIWYG Menus, and Now Scrapbook will be part of the upgraded package. —*KT*



HEY LOOK! A FINDER MENU that shows your tabbed folders!

OS 8 Trivia!!!

Kids! Impress your friends and scare your parents with these geeky details of the innards of Mac OS 8. —*DR*

- **Temporary memory usage now shows up in an application's memory partition, not in the System's memory partition.**
- **Non-Apple CD-ROM drives no longer are supported by the Apple CD-ROM driver. You'll need to get a third-party driver to go with that third-party drive.**
- **Color Picker 2.1 has fat pickers. It also has an eyedropper tool that allows you to pick up colors in the foreground. Even better, it's compatible with System 7.5 or later.**
- **Floppy disks no longer take comments in their Get Info... windows.**
- **Mac OS 8 includes two new invisible Finder files: OpenFolderListDF and DesktopPrinterDB.**

Here's the Fix!

Betty Baribeault, Jeff Coale, John Lott, Gary Thompson, and Dennis O'Brien were addicted enough to solve December's word scramble. These five lucky people each got one of this year's hottest games. Read on for the solution. —*KT*

B A D G E
D I A M O N D
K I T T E N
B U C K E T

B U T I'M A D D I C T E D!

WYSIWYG FONT MENU

Silly us, there are plenty of utilities that provide WYSIWYG font menu capabilities. Here are just a few of your more popular suggestions:

Adobe Type Reunion Deluxe, Adobe Systems, 800-833-6678, http://www.adobe.com/prodindex/typereunion—Groups font families together.

MenuFonts, Dubl-Click Software, http://www.dublclick.com/MenuFonts.html—Groups font families together.

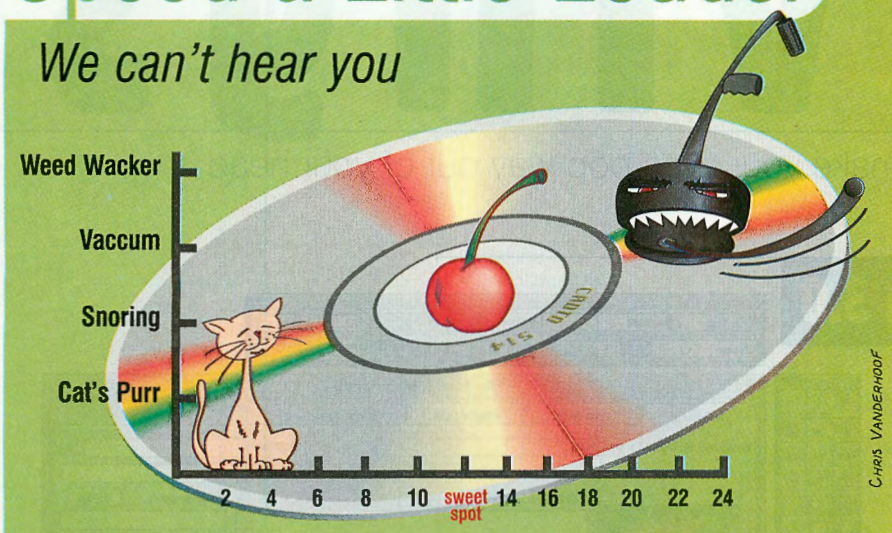
OneClick, WestCode Software, 800-448-4250, http://www.westcodesoft.com—If you already use the OneClick floating palette, grab the WYSIWYG Font Button Library from the WestCode Web page.

Suitcase 3.0, Symantec, 800-441-7234, http://www.symantec.com/suitcase—Helps organize multiple fonts, is AppleScriptable, displays WYSIWYG fonts.

TypeTamer, Impossible Software, 800-470-4801, http://www.impossible.com—Groups font families together but isn't WYSIWYG; the whole font is shown in a hierarchical submenu.

Speed a Little Louder

We can't hear you



The pace of technology is enough to amaze even us jaded industry observers, er, technicians, here at the *MacAddict* Lab. When *MacAddict* debuted in the summer of 1996, CD-ROM drives spun merely six times as fast as the originals. Now, a scant 18 months later, the dervishes are whirling 24 times as fast. We noticed—or, rather, couldn't help but hear—a disturbing trend that accompanied this magnificent growth spurt: 24X CD-ROM drives are noisy. Sensing a quantifiable phenomenon, we set about measuring various CD-ROM drives for decibel output. These are our results, translated into everyday terminology (with no exaggeration, of course). We encourage, no, plead with, the CD-ROM drive manufacturing industry to strive to hit the sweet spot. —*KT*

Be a Super Sleuth!

Kids are wild for anything from Humongous Entertainment. Your kids can be crazy like a SPY Fox if they can match up these spy gadgets with their pictures. Send your entry to SPY Fox, c/o *MacAddict,* 150 North Hill Drive, Suite 40, Brisbane, CA 94005, or enter it on our Web site at http://www.macaddict.com/contest. Contest ends March 15, 1998. The winner will be randomly drawn from correct entries and will receive a copy of Humongous Entertainment's SPY Fox in "Dry Cereal."

1. Spy putty

2. Night-vision shoe

3. Suction cufflinks

4. Beef-flavored X-ray gum

The MacAddict Index

Approximate sales, in dollars, made through The Apple Store every 12 hours during its first month of operation: 200,000*

Number of Macintosh computers used by Santa Claus, according to www.santaclaus.com: 7

Number of seconds required for William H. Gates III to pick up a $1,000 bill: 0.5

Number of dollars Gates earns every 0.5 seconds: $1,400

Increase in usability of online text "using neutral rather than subjective, boastful, or exaggerated language," according to a research study: 27 percent

Estimated fraction of Usenet newsgroup postings that are spam related: two-thirds

FOCUS ON: KNOW YOUR INSTALLED BASE!

Number of Apple Macintosh computers shipped as of September 30, 1997: 27,608,442

Estimated number of Macs currently in use: 21,800,000

Estimated percentage of Macs currently used in education, in the home, and in business/government, respectively: 27.1, 44.5, 28.4

Estimated number of current Mac users: 69,300,000

Estimated percentage of current Mac users in education, in the home, and in business/government, respectively: 56.3, 34.6, 9.1

FOCUS ON: APPLE'S YEAR IN REVIEW!

Amount paid to each member of Apple Computer's board of directors per board meeting attended, prior to August 5, 1997: $2,000

Amount paid to each director per board meeting attended, after August 5, 1997: 0

Fraction of Apple's current executive officers who never worked at NeXT: one-sixth

Amount of severance paid to Dr. Gilbert F. Amelio: $6,731,871

Amount paid by Apple to Amelio's Aero Ventures, for use of a private plane, during fiscal 1997: $471,461

Approximate Apple advertising expenses during fiscal 1995, 1996, and 1997, respectively: $205,000,000, $183,000,000, and $143,000,000

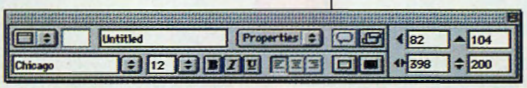
*As we noted last month, the figure was $500,000 for the inaugural 12 hours. Sources may be found on the *MacAddict* Web site. —*MS*

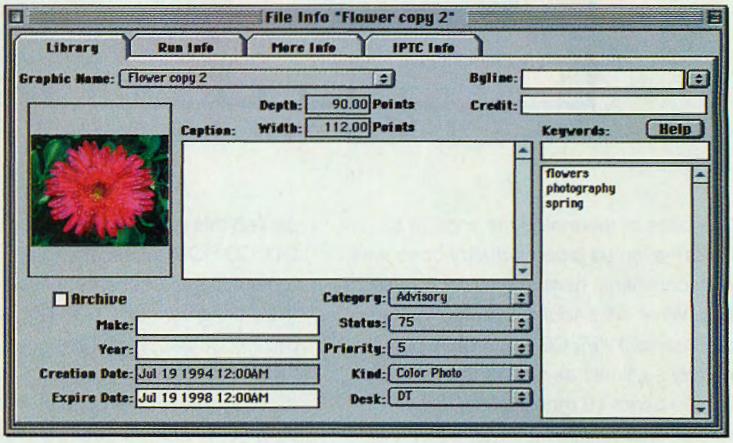
cravings

Five fine items meant to make your eyes pop way out of your head.

FaceSpan 3.0

Digital Technology International





It's not that you're dumb, it's just that your aptitudes lie in other areas, unlike that snotty engineer you call "sister" to her face and "doody head" behind her back. And, although maturity isn't your strong suit, Mac creativity is. But there is a problem. You've been longing to automate the tedious backup process of all those movie and sound files, but you can't bring yourself to learn how to use a C programming environment and understand all those toolbox calls. And the AppleScripts you've written to accomplish this task all look, well, so ugly. Enter Digital Technology International's FaceSpan 3.0. For $149, this Rapid Application Development tool uses AppleScript (or other Open Scripting Architecture-compliant language) to let you create your own Mac applications. FaceSpan apps now conform to the Mac OS 8 look and feel, and you can build tab panels, bevel buttons, and disclosure triangles into your applications. You even can customize existing applications with FaceSpan. To satisfy your creative and aesthetic senses, contact Digital Technology at 800-322-3772 or 801-226-2984, or point your Web browser to http://www.facespan.com, and show your sister she isn't the only one who can be a smarty-pants.

A FRIENDLY FACE FOR APPLESCRIPTS.

CD Armor

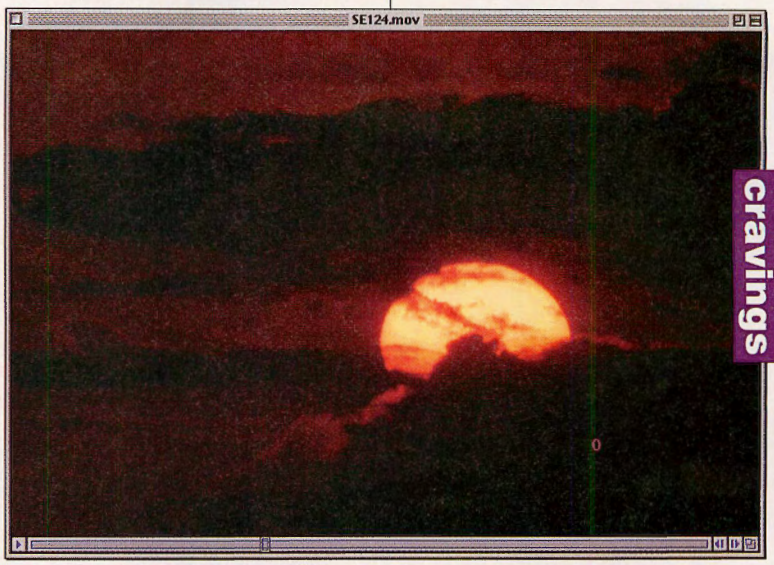
Digital Armor

This *always* happens when you go on vacation. You forget to put your archive of skin abnormalities (painstakingly burned on CD-ROM) away before you go, and your blue-tongued skink, Roxie, decides she'd like to scratch her frill with it. All those scale and claw scratches, and suddenly, your CD is dead. Kaput. Well, here's your solution (short of buying Roxie a cage): CD Armor. For a mere $19.95, you get an installer and six CD-ROM shields. Just place a shield and the CD to be protected in the installer, and your vital disc is protected by an optically clear polymer shield. Shield replacement packs are available in sets of six, 15, 25, and 40, and run from $4.95 to $19.95. To find out more, contact Digital Armor at 800-942-5224 or 403-265-7225, or surf to http://www.digitalarmor.com. It beats having to explain why there are blue-tongued skink marks all over your discs.

PROTECTION FOR YOUR VITAL DISCS.

Digital Film Library

Artbeats



There are times when nothing else but a desert rainstorm with fingers of golden sunlight poking through will do for a client's video montage. But how to get one? Well, you could wait for the summer thunderstorm season, fly to Arizona with a high-quality film camera, and hope to heck you find just the right clouds. Or you could plunk down $499 for the Storm Clouds CD-ROM from Artbeats (part of the Artbeats Digital Film Library). This purchase entitles you to nearly 30 royalty-free video clips of time-lapse storm clouds saved as 720-x-486-pixel QuickTime movies (using the PhotoJPEG compression standard for maximum quality). Other products in the Digital Film Library line include White Puffy Clouds, Sky Effects, and Light Clouds and Fog. Each CD-ROM is $499, which is considerably cheaper (and easier) than shooting the right high-quality sky scene yourself. To get more information, call Artbeats at 800-444-9392 or 541-863-4429, or visit http://www.artbeats.com.

DELUXE DIGITAL SKY SHOTS.

AP-12 CD Case

Case Logic

It's a rough-and-tumble life as the world's first director of a computer technology outreach program to other species. The worst part has to be climbing those sheer cliffs to bring CD-ROMs to the puffin nests. Besides the ordinary fears of falling 300 feet to the crashing surf below, you also have to contend with the terror of damaging the CD-ROMs. Case Logic has something for you, pal. It's the AP-12 CD Case. This sturdy hard-shell CD case holds 12 discs. With a thickness of a mere 1¼ inches, you can carry several on each climb; and with a price of only $5.99, the AP-12 CD Case won't break your organization's budget. The medical bills, however, may be a problem. To get ahold of an AP-12, call 800-925-8111 or 303-530-3800, or go to http://www.caselogic.com.

DISCS DESERVE A GOOD HOME.

webColor Pad

R35

The hairs you have are sparse enough without having to remember the hexadecimal code for a particular Web-safe shade of blue, but there you are, once again, struggling to recall, and your hair is quaking (figuratively), awaiting the inevitable tug. Instead, spend the $12.95 for a webColor Pad from R35. This 10½-x-8-inch mouse pad lists all 216 Web-safe colors, complete with hexadecimal equivalents. To get your hands (and your mouse) on a webColor Pad, call 888-529-0903 or 626-296-1250, or go to http://www.r35.com. Your hair will thank you. So will your mouse.

—David Reynolds

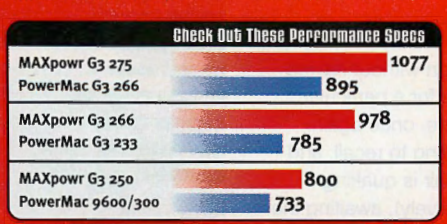
A TABLET FOR THE SACRED COLORS.

* Suggested retail price. Newer and MAXpowr are registered trademarks of Newer Technology, Inc. All other names are trademarks of their respective holders. © Newer Technology, 1997.

Your Mac

What Newer Technology does is simple: we sell products that make Macs™ faster and better.

Many times upgrading your existing Mac is smarter than buying a new one. For instance, if you're looking for the absolute fastest Mac you can own, then you have to buy a MAXpowr™G3, because no shipping system from Apple can outperform it. Or if you're looking for a lot of bang for the buck, the MAXpowr Citation is the way to go. It lets you replace your older processor with a fast 604e for as little as $359*. That's right, you can bring your machine out of the stone-age and make it as fast as the new top-of-the-line Macs without spending tons of cash for a new system.



Call 1-316-943-0222 for more info

or surf to www.newertech.com • email: info@newertech.com

Your Mac With A Newer Upgrade

After all, your basic system is still fine; technology has just left your processor in the dust. So keep the box, save the cash, and just give your Mac a brain transplant.

Plus, with Newer Technology you're buying from a company you can trust. We're not some dinky company being run out of a garage. In fact, we've been engineering and selling products that make Macs better since 1984. So you can be assured that you're going to get top-of-the-line products, great service, knowledgeable support and total compatibility.

So come by our website and see which processor is right for your particular machine. No matter what kind of a Mac or Mac-compatible you're using, Newer Technology has a product that can make it better.

Let us prove that sometimes Newer™ is better than new.

newertechnology inc

Sometimes Newer™ Is Better Than New.

NITRO BURNING FUNNY MACS

GET MORE INFO on upgrading your Mac at The Web Site.

THERE'S A CERTAIN MYSTIQUE ASSOCIATED WITH REBUILDING THE CLASSICS—SITTING IN THE GARAGE ALL NIGHT WITH A SMALL SPACE HEATER IN THE CORNER, THE AIR COMPRESSOR COMING ON OCCASIONALLY TO MAINTAIN PRESSURE FOR THE AIR WRENCH, AND ALL THOSE TOOLS AND PARTS. A HOLLY DOUBLE-PUMPER FOUR-BARREL CARBURETOR A NITRO INJECTOR, LOW-PROFILE TIRES, HIGH-COMPRESSION PISTONS—THERE ARE DIGITAL EQUIVALENTS FOR ALL OF THESE, AND TO PROVE IT, WE TOOK SIX MAC MODELS AND CHERRIED THEM OUT—THEORETICALLY, OF COURSE. WE DIDN'T ACTUALLY MAKE SOME OF THE FOLLOWING MODIFICATIONS, AND WE SUGGEST YOU STICK TO APPROVED HARDWARE UPGRADES. WE'RE NOT RESPONSIBLE IF YOU ACTUALLY STRAP MODIFIED BUTANE LIGHTERS TO YOUR MAC.

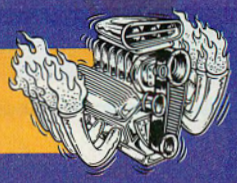
HERE ARE OUR SIX NITRO-BURNING FUNNY MACS. EACH HAS SPEED TO SPARE. WE CHOSE GREAT PARTS AND BUILT FAST MACS WITH THEM. WE ALSO ADDED SOME GREAT CUSTOM GEAR TO MAKE THESE MACS ONE-OF-A-KIND MACHINES.

BY DAVID REYNOLDS

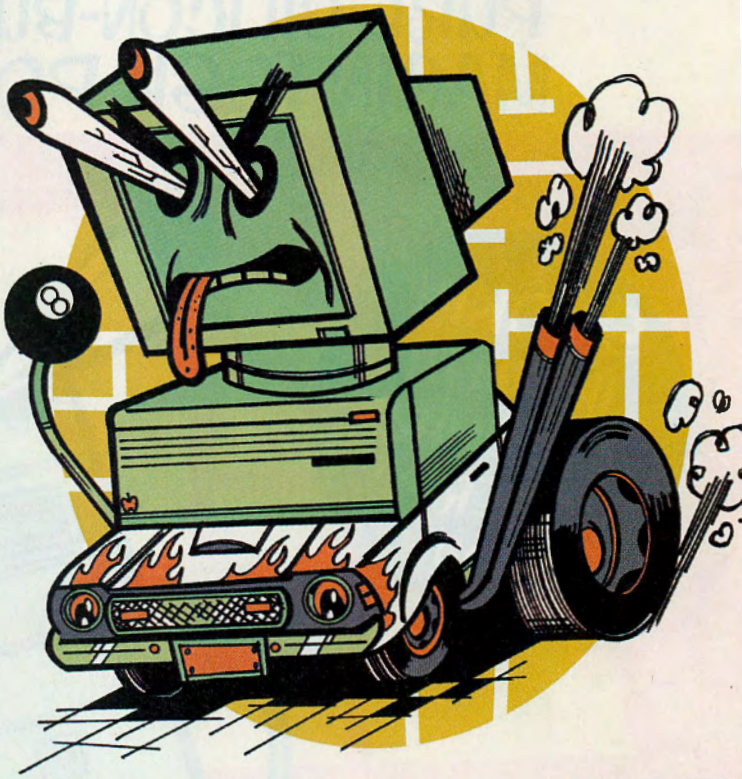
PURE SILICON-BURNING MACINTOSH POWER!

ILLUSTRATIONS BY MIKE GORMAN

1989 MAC IICI "GREMLIN"



THE MAC IICI IS A CLASSIC AMONG CLASSICS—SLEEK CHASSIS, LOTS OF POWER (FOR ITS DAY), AND A RELIABLE, WORKHORSE IMPLEMENTATION. THE STOCK IICI COMES WITH A 32-BIT CLEAN 68030 MICROPROCESSOR RUNNING AT 25MHZ. ALTHOUGH THAT DOESN'T SOUND LIKE MUCH HORSEPOWER TODAY, BACK IN THE LATE '80S, THAT WAS A WHOLE LOTTA PROCESSOR. BUT THAT WAS THEN; THIS IS NOW. WITH SOME SCROUNGING AND SOME CREATIVE WORKAROUNDS, THE IICI CAN BE UPGRADED TO A 100MHZ POWERPC 601 RUNNING MAC OS 8 THAT CAN DRIVE A 21-INCH MONITOR AT MILLIONS OF COLORS.



ENGINE: We chose the Turbo 601 upgrade card from DayStar Digital for the heart of this digital street rod. This processor card upgrade was discontinued by DayStar in 1996, but it still may be found in used hardware circles (see the *MacAddict* Web site) and is worth the effort to find. Apple doesn't officially support Mac OS 8 on an '030-based Mac upgraded to a PowerPC chip, but there are ways around this. By first installing System 7.5.3 (which changes the IIci's Gestalt ID) and then installing Mac OS 8, the upgraded IIci can run the latest Mac OS. There are some caveats with this approach, however—the upgraded Mac won't boot in '030 mode under Mac OS 8 (sometimes done for compatibility's sake), and this is not officially sanctioned, so don't expect help from anyone if something unforeseen happens. See Bronson Trevor's Unofficial Turbo 601 Site (http://www.brinnoven.demon.co.uk/turbo601) for more information on the Turbo 601.

THE TURBO 601 UPGRADE CARD ALSO WORKS WITH THE MAC IISI, IIVX, IIVI, VX, AND VI AND PERFORMA 600. SONNET TECHNOLOGIES' PRESTO UPGRADE CARD CAN UPGRADE THE SAME MAC MODELS (EXCEPT THE IIVI) TO AN 80MHZ 68040 CHIP (PRETTY DARNED FAST) FOR AS LITTLE AS $199.

DRIVE TRAIN: Making the Gremlin burn some digital rubber is a two-part process. The first is installing a new hard drive. We chose the Quantum 540S as a compact, fast hard drive with some elbow room and the ability to transfer up to 10.5MB of data per second. This drive is too fast for the IIci's built-in SCSI (which can handle only 1.25MB/sec.), so we upgraded the Gremlin's SCSI abilities with the ATTO Silicon Express IV SCSI-2 accelerator. This NuBus card gives the Gremlin full SCSI-2 abilities, accelerating potential disk speed to 20MB/sec. Because the hard drive can dish out only a little over 10MB/sec., the bottleneck then becomes the hard drive—again. Still, the hard drive is now 10 times faster than the original.

THE SILICON EXPRESS IV WORKS WITH ANY NUBUS MAC TO ACCELERATE HARD DRIVE PERFORMANCE. THE QUANTUM 540S IS ALSO A NICE, FAST HARD DRIVE THAT WILL WORK IN ANY SCSI MAC.

WINDSHIELD: With a little help from Radius, the Gremlin can handle the largest monitors in 24-bit color. The Precision Color Pro 24X NuBus card accelerates QuickDraw functions, providing up to a tenfold speed increase in screen redraws. It also handles 21-inch monitors at millions of colors for the best possible viewing surface.

THE PRECISIONCOLOR PRO 24X CAN BE USED IN ANY NUBUS MAC.

ADDITIONAL ACCESSORIES: Now that the basics are in place, we fatten out the Gremlin by adding 128MB of RAM (eight 16MB 30-pin SIMMs) and a NuBus 10base-T Ethernet card.

AFTERMARKET CUSTOM GEAR: [The following is a joke. Kids, don't try this at home. All the aftermarket custom gear sections are a joke. Don't do anything like this to your Mac. You do this at your own risk.] To accurately reflect the massive speed increase from stock to custom in the Gremlin, we gave the chassis a white base-coat paint job and added airbrushed red and orange flames. It takes a real pro to paint convincing fire, so we decided to hedge our bets with four butane lighters (two attached to each side of the chassis) electronically linked to the Gremlin's power supply. On startup (or whenever the Gremlin draws hard on the power), the butane lighters spark up, shooting nine-inch flames through four short chrome pipes.

FROM:
- 25MHz 68030
- 1MB of RAM
- 40MB hard drive (1.25MB/sec transfer time)
- 8-bit built-in video at 640 x 480 pixels

TO:
- 100MHz PowerPC 601
- 128MB of RAM
- 545MB hard drive (10.5 MB/sec transfer time, theoretical)
- 24-bit video at 1,024 x 768 pixels

BOTTOM LINE:
10x performance increase

1993 LC 475 "CHARGER"

THE MAC LC 475 WAS THE LONGEST-SELLING MODEL IN THE LC LINE (WHICH BEGAN WITH THE ORIGINAL PIZZA-BOX MAC LC). THE LOW-PROFILE CHASSIS INSPIRED EITHER LOVE OR HATE IN THOSE WHO ENCOUNTERED IT, BUT EITHER WAY, IT DOESN'T LEAVE MUCH CABIN ROOM TO ADD COMPONENTS. STILL, THIS SLIM MAC CAN KEEP UP WITH THE POWERPC PACK, GIVEN SOME ADJUSTMENTS, AND IT MAKES A GREAT LOW-RIDING STREET ROD, TO BOOT.

ENGINE: A stock LC 475 has a 25MHz 68LC040 at its heart, and that's a shame—this otherwise-great processor had no math coprocessor, slowing this Mac down unnecessarily. That's why we went with the now-discontinued Macintosh Processor Upgrade card. This card plugs into the PDS slot and boosts the Charger to a 50MHz PowerPC 601 chip, complete with 256K of Level 2 cache. Although this doesn't make the Charger tremendously faster overall, it lets the modified Mac run PowerPC applications, and it speeds math functions, too—Apple claims the increase could be as high as 10 times the original model's speed. The Macintosh Processor Upgrade card occupies the Charger's PDS slot (which leaves the original processor intact), allowing the charger to switch between the 601 and the 68LC040. It's like having two engines under the hood. Because the processor upgrade card was discontinued, it may be difficult to find. Try used Mac hardware sites and Mac newsgroups to find one. If one can't be had, consider filling that slot with an Ethernet card or another LC PDS card—including the Apple II emulator card.

THE MACINTOSH PROCESSOR UPGRADE CARD ALSO CAN BE USED WITH THE QUADRA 605, PERFORMA 47X, LC 57X, PERFORMA 57X, LC 580, PERFORMA 58X, LC 630, PERFORMA 630, AND QUADRA 630 MODELS.

DRIVE TRAIN: To make up for the lack of expansion options in the Charger's tight chassis, we chose a 4.55GB Seagate Barracuda 4XL Ultra SCSI drive. The 3½-inch drive fits nicely in the LC's tight chassis, and its 20-plus megabyte-per-second transfer rate provides more than enough data to keep the LC 475 fueled with bits. Yes, this 7,200 RPM hard disk is probably too much drive for the Charger, but it definitely will keep the data flowing.

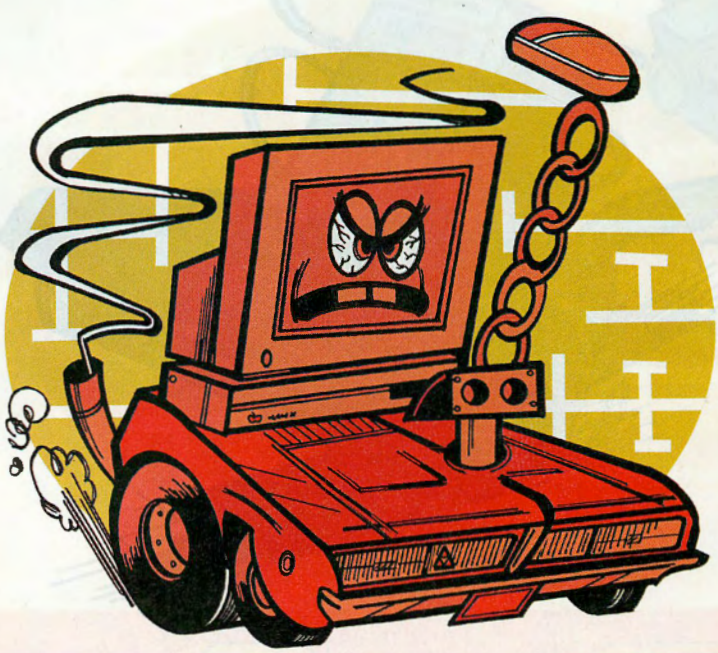
THE BARRACUDA ULTRA SCSI DRIVE CAN PROVIDE FAST DATA ACCESS IN JUST ABOUT ANY MAC WITH INTERNAL SCSI.

WINDSHIELD: Again, limited by the Charger's small chassis, there isn't any room for a video card. There is, however, a way to improve the display. We increased the Charger's VRAM from 512K to 1MB, which gives 8-bit color at 1,152-x-870-pixel resolution.

INCREASING THE VRAM IN ANY MAC IS A GREAT WAY TO PROVIDE ADDITIONAL COLORS AT HIGHER RESOLUTIONS. MANY MACS HAVE UPGRADABLE VRAM. CHECK THE APPLE SPEC DATABASE (AVAILABLE AT FTP://FTP.INFO.APPLE.COM/APPLE.SUPPORT.AREA/APPLE.SOFTWARE.UPDATES/US/MACINTOSH/UTILITIES) TO SEE WHAT YOUR MAC CAN TAKE.

ADDITIONAL ACCESSORIES: To make the Charger as beefy as possible, we increased its RAM to 36MB by adding a 32MB 72-pin SIMM to the LC 475's single memory slot. Although this isn't a lot of RAM by today's standards, it is a lot of elbow room in which to work.

AFTERMARKET CUSTOM GEAR: Here's where our pizza-box Charger shines. After giving it a candy-apple red ultragloss paint job, we decked out the floppy port, the power light, and the feet with chrome. A tinted screen keeps the Charger cool even in the brightest sunlight. A complete hydraulics system—including a rotating name plate and independent fast hydraulic lifts in each foot—keep the Charger low to the ground. When the need arises, however, the Charger's hydraulics can make the Mac and its monitor hop on two feet. A welded-chain mouse completes the Charger's inner-city look.



FROM:
- 25MHz 68LC040
- 4MB of RAM
- 80MB hard drive (5MB/sec. transfer time)
- 8-bit built-in video at 640 x 480 pixels

TO:
- 50MHz PowerPC 601
- 36MB of RAM
- 4.55GB hard drive (over 20 MB/sec. transfer time theoretical)
- 8-bit video at 1,152 x 870 pixels

BOTTOM LINE:
10x performance increase

1993 QUADRA 800 "BARRACUDA"

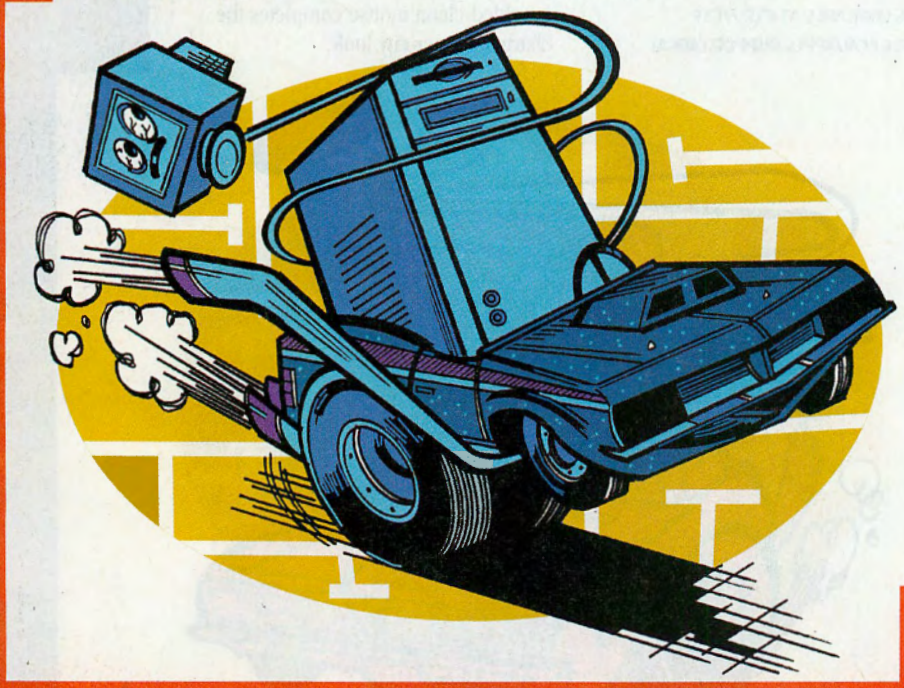
STOCK QUADRA 800S STILL CAN BE FOUND IN GRAPHICS HOUSES, NEWSPAPERS, AND OTHER PLACES WHERE A WORKHORSE MAC IS NEEDED. ALTHOUGH POWERED BY AN ORIGINAL-EQUIPMENT 66MHZ 68040 PROCESSOR, THE QUADRA 800 CAN BE UPGRADED THROUGH THE ROOF, TAKING ADVANTAGE OF THE LATEST G3 PROCESSORS AND ENOUGH RAM TO WIN A TRUCK PULL.

ENGINE: The first step in the Barracuda's overhaul was a Power Macintosh 8500 logic board upgrade. This swaps out the Quadra 800's logic board for a brand-new 8500 logic board with all the power that it implies—audio and video input and output, and lots of RAM slots. But the 120MHz 604 processor on the 8500 logic board wasn't enough; we replaced the processor card with a PowerLogix PowerForce G3 275. This processor card holds a 275MHz PowerPC 750 processor with 1MB of backside cache also running at 275MHz. There isn't a faster processor card on the planet, and now it sits in the Barracuda. As if that weren't enough, the PowerForce G3 can be accelerated beyond its 275MHz speed. Speeds of up to 293MHz have been reported without redlining.

THE 8500 LOGIC BOARD UPGRADE ALSO CAN BOOST A QUADRA 840AV, A POWER MACINTOSH 8100/80, 8100/100, OR AN 8100/110. THE POWERFORCE G3 PROCESSOR CARD CAN BE USED WITH ALMOST ANY POWER MACINTOSH OR POWER MAC CLONE THAT HAS AN UPGRADABLE PROCESSOR ON A DAUGHTERCARD. SEE HTTP://WWW.POWERLOGIX.COM/G3INFO.HTML FOR A COMPLETE LIST.

DRIVE TRAIN: The Barracuda came with a 230MB internal SCSI drive, so we chose a 3.2GB Quantum Fireball to replace the stock drive; it should provide enough speed and space for the near future. But we also installed an internal Zip drive to add some removable storage, in case we were wrong about that space thing.

THE QUANTUM FIREBALL IS A GOOD, STEADY HARD DRIVE UPGRADE FOR ANY MAC, AND THE ZIP DRIVE (INTERNAL OR EXTERNAL) IS ALMOST A STANDARD THESE DAYS. EITHER ONE CAN BE USED ON ANY MAC'S SCSI CHAIN.



WINDSHIELD: Because the 8500 logic board upgrade gave the Barracuda three PCI slots to fill, we bypassed the onboard video in favor of NewerTech's RenderPIX PCI/502 QuickDraw 3D accelerator board. The RenderPIX PCI/502 renders up to 1,500,000 triangles a second for some serious gaming, VRML work, and 3D rendering. The RenderPIX PCI/502 comes with 8MB of VRAM—enough to drive a monitor at 1,600 x 1,200 pixels in millions of colors.

THE RENDERPIX PCI/502 WORKS WITH ANY PCI-BASED MAC, BUT IT MAKES SENSE TO PAIR IT WITH SOMETHING MEATY, BECAUSE IT WILL OVERWHELM A LESSER MACINTOSH.

ADDITIONAL ACCESSORIES: Although it's probably a pointless exercise, we upgraded the Barracuda's L3 cache (formerly L2 cache before the G3 processor card upgrade) from 256K to 512K. We also maxed out the RAM at 512MB—enough to run an entire hard drive as a RAM disk if we want to bypass the Barracuda's hard drive bottlenecks altogether. We also added an ATI Technologies XClaim TV peripheral to relax with a little *Home Improvement* during our off hours.

AFTERMARKET CUSTOM GEAR: Now this is one fast Mac with lots of custom interior work, and to reflect that, we added a tinted-glass T-top so we could look in on all that new hardware inside. The Barracuda's chassis was painted a high-gloss metal-flake midnight blue to give it a scaled effect to match its namesake. We also added an airfoil, spoilers, and a fiberglass scoop around each air vent to aid in cooling. Finally, we topped the whole classy package off with a power antenna for the XClaim TV, which retracts when the Barracuda is turned off.

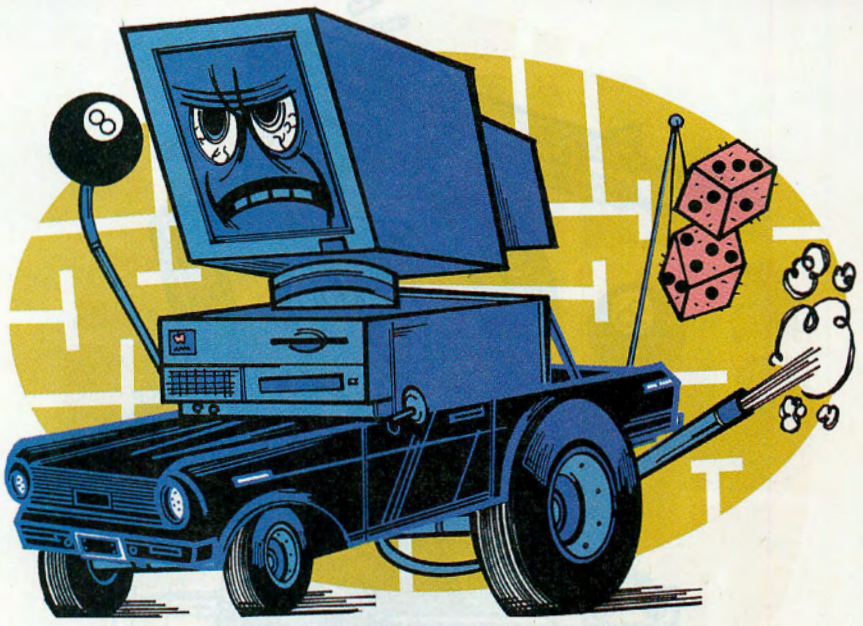
FROM:
- 66MHz 68040
- 8MB of RAM
- 230MB hard drive
- 8-bit video at 832 x 624 pixels

TO:
- 275MHz PowerPC 750
- 512MB of RAM
- 3.2GB hard drive
- 8-bit video at 1,600 x 1,200 pixels

BOTTOM LINE:
19x performance increase

1995 POWER MAC 7500/100 "NOVA"

THE 7500/100 BOASTS THE BEST CHASSIS DESIGN FOR A MACINTOSH-EVER. THE 'OUTRIGGER' ENCLOSURE CAN BE OPENED UP; NEW RAM, A HARD DRIVE, A PCI CARD, AND A PROCESSOR UPGRADE CAN ALL BE INSTALLED; AND THE CASE CAN BE CLOSED, ALL IN LESS THAN FIVE MINUTES. SWEET. BASED ON THE POWERPC 601 MICROPROCESSOR, THE 7500/100 HAD SOME SPEED FOR A LOW-END POWER MACINTOSH. WHAT MAKES IT ESPECIALLY ATTRACTIVE IS ITS EASY (AND CHEAP) UPGRADABILITY.



ENGINE: We decided to leave the Nova's logic board in place and, instead, take advantage of its expandability. To replace the aging PowerPC 601 microprocessor, we chose NewerTech's MaxPOWR Pro+ processor upgrade card, which replaced the pokey 100MHz 601 with a 266MHz PowerPC 750 processor. The MaxPOWR Pro+ also includes 1MB of backside cache running at 177MHz. By flipping some DIP switches on the upgrade card, the MaxPOWR Pro+'s bus timing can be altered, allowing us to tweak the Nova for the best possible performance.

THE MAXPOWR PRO+ PROCESSOR CARD CAN BE USED WITH MANY POWER MACINTOSH OR POWER MAC CLONES THAT HAVE AN UPGRADABLE PROCESSOR ON A DAUGHTERCARD. SEE HTTP://WWW.NEWERTECH.COM/PRODUCTS/MAXPOWR/750/PRO.HTML FOR A COMPLETE LIST.

DRIVE TRAIN: The Nova shipped with a 500MB hard drive (adequate space for basic use), but we wanted more—more speed, to keep up with the G3 processor, and more space, to hold a couple of CD-ROMs worth of data (in case we ever decided to use the Nova to burn some CDs of our own). To that end, we added a 9.1GB Seagate Barracuda hard drive, which can transfer data at a speed of more than 20MB/sec. (Because of limitations with the Mac OS Finder, drives larger than 4GB sometimes have reliability problems. Keep this in mind whenever upgrading to a huge drive. Always be sure to partition such a drive into smaller volumes.)

AGAIN, THE 7200 RPM BARRACUDA HARD DRIVE IS A GREAT CHOICE FOR PEOPLE WHO WANT TO ADD SOME FAST STORAGE SPACE TO THEIR MACS—AS LONG AS THOSE MACS HAVE AN INTERNAL SCSI BUS.

WINDSHIELD: Thinking that games would be a great test track for the Nova, we boosted its video performance with the TechWorks Power3D card, which accelerates both 3Dfx-based graphics and QuickDraw 3D RAVE-based graphics for amazing gaming.

THE POWER3D CARD WORKS IN ANY MAC WITH A FREE PCI SLOT TO ACCELERATE 2D AND 3D GRAPHICS, AND SINCE BUNGIE SOFTWARE PRODUCTS' HOT NEW GAME, MYTH, TAKES ADVANTAGE OF POWER3D'S 3DFX ACCELERATION, IT'S A MUST-HAVE SPEED BUMP FOR ANY GAMING FANATIC OUT THERE.

ADDITIONAL ACCESSORIES: Because the Power3D card isn't a stand-alone video card, we added additional VRAM to the Nova to bring it up to 4MB. Also, anticipating some hot-and-heavy network games, we added a Netopia 100base-T Ethernet card to take advantage of speedy packet transfer. Finally, we topped off the RAM at 512MB.

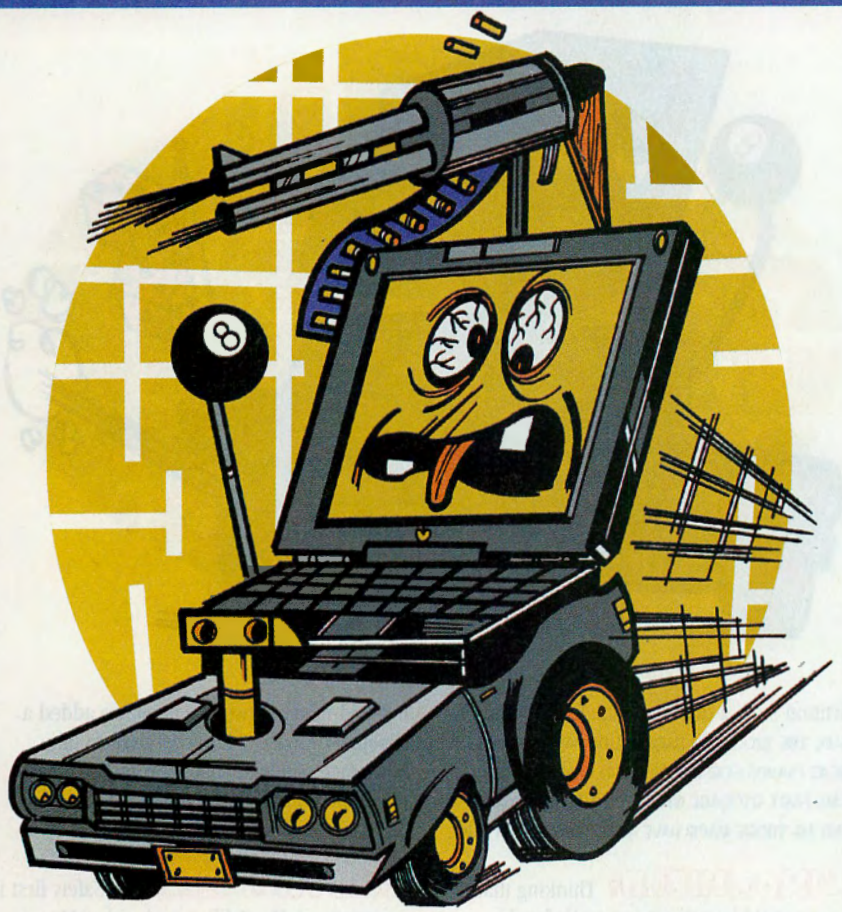
AFTERMARKET CUSTOM GEAR: Safety first is our motto at *MacAddict*, and with a Mac as fast as the Nova, we decided to include a few safety items—after we painted the Nova's chassis a hot gloss black. First, we added front and side airbags to protect the Nova's operator in the event of a system crash. This includes a child seat sensor, which, when installed in the chair in front of the Nova, turns off the airbag if it detects a child seated in front of it. We also added a processor eject system if things get too fast.

FROM:
- 100MHz PowerPC 601
- 8MB of RAM
- 500MB hard drive
- 8-bit video at 1,280 x 1,024 pixels

TO:
- 266MHz PowerPC 750
- 512MB of RAM
- 9.1GB hard drive
- 16-bit video at 1,280 x 1,024 pixels

BOTTOM LINE:
8x performance increase

1994 POWERBOOK 540C "SUPER BEE"



MANY POWERBOOK 540C OWNERS STILL WON'T LET GO OF THESE 'BOOKS UNLESS A BRAND-NEW G3 POWERBOOK IS DANGLED UNDER THEIR NOSES—AND WITH GOOD REASON. THE 540C USES A 66MHZ 68LC040, WHICH IS PRETTY DARNED FAST FOR A 68K-BASED MAC. IT ALSO USES A COLOR ACTIVE-MATRIX DISPLAY, WHICH IS BEAUTIFUL TO LOOK AT, AND IT HAS STEREO SPEAKERS BUILT IN.

ENGINE: The 540c is incredibly upgradable for a PowerBook. We installed a NUpowr daughterboard processor upgrade, which replaced the 68LC040 in our Super Bee with a 183MHz PowerPC 603e chip. This upgrade provides a speed increase of up to 400 percent—smokin'. The NUpowr card also adds 128K of L2 cache. This isn't as much L2 cache as we might like, but it beats having no L2 cache at all by a long shot. This brings the Super Bee beyond PowerBook 1400 speeds.

THE NUPOWR UPGRADE CARD WILL UPGRADE ANY 500-SERIES POWERBOOK TO POWERPC SPEEDS.

DRIVE TRAIN: To increase disk speed and storage space for the Super Bee, we added a 2GB ultrahigh-density ArtMedia Monster Drive hard drive. Not only does this add tons of extra space, this drive has a respectable average seek time of 13ms.

THE ARTMEDIA MONSTER DRIVE, WHICH COMES IN 108, 144, AND 216B SIZES, WILL WORK IN THE POWERBOOK 140-, 170-, 180-, 540-, AND DUO 200-SERIES MACS.

WINDSHIELD: Because of the built-in active-matrix display, there's not much we could do to change the Super Bee's video. It does have built-in video out, which lets us play on a 832-x-624-pixel resolution monitor in 8-bit color.

ADDITIONAL ACCESSORIES: Some cool things are out there for our Super Bee that are available for no other Mac. We first maxed out its RAM at 36MB, then we added the BookEndz dock from Pilot Technologies. It has ADB, SCSI, serial, power, video, and audio connectors, and it allows the Super Bee to garage itself—connecting to all of the above—in two seconds.

AFTERMARKET CUSTOM GEAR: To highlight the Super Bee's mobile power, we added chrome mag rims with low-profile tires to help it get around, plus we gave it a gloss gray paint job, simply because gray is the best color ever for PowerBooks. To make sure that the Super Bee doesn't wander too far with the help of some misguided Mac jacker, we gave it the ability to defend itself with a speaking alarm system ("Please step away from the Mac"), a smoke-screen generator, and twin .18-caliber machine guns with 700 rounds of belt ammunition per gun. Plus, it comes with the PowerBook Club to help deter thefts.

FROM:
- 66MHz 68LC040
- 8MB of RAM
- 500MB hard drive
- 8-bit video at 640 x 480 pixels
  8-bit video at 832 x 624 pixels (external)

TO:
- 183MHz PowerPC 603e
- 36MB of RAM
- 9.1GB hard drive
- 8-bit video at 640 x 480 pixels
  8-bit video at 832 x 624 pixels (external)

BOTTOM LINE:
5x performance increase

1997 POWERMAC 9600/300 "MUSTANG"

THIS IS ALREADY ONE FAST MAC WITH A GREAT CHASSIS. THE 9600/300 IS BUILT AROUND A 300MHZ POWERPC 604E, ONE OF THE HARDEST-DRIVING MICROPROCESSORS EVER BUILT. THE 9600/300 ALSO HAS THE BEST TOWER CHASSIS EVER DESIGNED. IT FOLDS APART TO MAKE UPGRADING OR OVERHAULING A SNAP.

ENGINE: After a lot of debate (and a near-fistfight between the 604e stalwarts and the 750 supporters), we decided to leave the processor in place. Although a high-speed PowerPC 750 might boost the Mustang's speed in some areas, it would fall behind in certain types of math operations.

DRIVE TRAIN: We wanted to eliminate the hard drive bottleneck in the Mustang, so we installed an Adaptec 2940U2W SCSI host card to control a 18.2GB Seagate Cheetah hard drive without removing the original-equipment 4GB fast SCSI hard drive. The Cheetah spins at an amazing 10,000 RPM, and it's one of the fastest drives in the world. We also added a Syquest SyJet 1.5GB removable drive, which provides hard-drive speed and removable media in the same package.

THE CHEETAH HARD DRIVE WORKS IN ANY MAC WITH AN INTERNAL SCSI CHAIN. TO TAKE FULL ADVANTAGE OF THIS AMAZING HARD DRIVE, A FAST SCSI CONTROLLER IS A MUST.

WINDSHIELD: Wanting only the best image, we added an Imagine Series 2 video card from Number Nine. This 128-bit card ships with 8MB of VRAM. Yes, we know, the 9600/300 already ships with a fast video card, the IMS TwinTurbo 128M4A accelerated video card. So we kept it and attached a Hitachi RasterOps MC7515 19-inch monitor to each.

BOTH THE IMAGINE SERIES 2 AND THE IMS TWIN TURBO 128 VIDEO CARDS WORK IN ANY MAC WITH A FREE PCI SLOT. HITACHI MONITORS ALSO WORK WITH ANY MAC THAT CAN USE EXTERNAL VIDEO.

ADDITIONAL ACCESSORIES: Not wanting for much more, we maxed out the Mustang's RAM at 768MB, which is enough for anyone. We added a PC Compatibility Card (the one with the Pentium 166), just so we could poke fun at a reasonably fast PC without leaving the Mustang.

AFTERMARKET CUSTOM GEAR: In the tradition of stock-car drivers everywhere, we welded the 24X CD-ROM drive shut, simply because we didn't want to be sliced by any CDs spinning that fast. Instead, CDs are loaded from the top through a drop-in slot, much like the Dukes of Hazzard jumping into their car. We painted the Mustang a metal-flake hunter green and added a rag top to add additional cooling on sunny days. Finally, because we disabled the Mustang's cup holder by welding the CD-ROM drive shut, on each side we added one capable of holding a 7-Eleven Big Gulp.

David Reynolds can't wait to get his hands greasy rebuilding that old Mac Plus in his basement.

FROM:
- 300MHz 604e
- 64MB of RAM
- 4GB hard drive
- 16-bit color at 1, 600 x 1,200 pixels

TO:
- 300MHz 604e
- 712MB of RAM
- 4GB hard drive, 18.2GB hard drive, 1.5GB SyJet drive
- 16-bit color at 1,920 x 1,200 pixels

BOTTOM LINE:
1.5x performance increase (but this is top-of-the-line performance)

Accel er

43 Freakin' Fast Tweaks

By Owen W. Linzmayer

According to one of the many legends surrounding the making of the Macintosh, Steve Jobs inspired the software engineers to reduce the startup time by reminding them that Macs would be used daily by millions of people and that every second not spent waiting translated into human lives saved. In that same spirit, here are some often-overlooked simple speedup tips for Mac OS 8 that don't cost a thing (many of these tips also work under previous versions of the System software).

FIND THE SHAREWARE and freeware programs mentioned on The Disc.

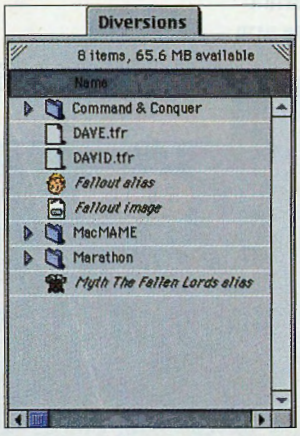
By themselves, none of these tips comes close to matching the performance increase you get from a hardware upgrade, but in aggregate, the overall result is that your Mac will seem much snappier and more responsive. We've numbered our suggestions in each section from the most to least important. If you want the maximum speed boost, do them all. If you have time to do only a couple of things to your Mac, pick the top two or three items in each category.

New Features

As creatures of habit, we find it easy to ignore the many new features of Mac OS 8 and continue performing the same old tasks in the same old fashion. What a shame. Take the time to break your old habits and begin using the new tools Mac OS 8 puts at your disposal.

1 Contextual menus—Explore contextual menus, perhaps the greatest new feature in Mac OS 8. If you hold down the Control key as you click an item on the screen (such as an icon, a window, or some text), a menu appears displaying commands you can apply to the icon, window, or text. Mac OS 8 comes with some pretty simple options, but you can download tons of useful additions from CM Central (http://www.interdesign.ca/cmcentral) and Control-Click (http://www.venweb.com/controlclick).

2 Pop-up windows—Make use of pop-up windows to keep frequently used windows readily available but out of the way. From the Finder's View menu, choose "as Pop-up Window" to turn a regular window into a tab that is anchored at the bottom of the desktop. When you click the tab on a pop-up window, the window collapses to display only the title. Clicking the title again returns the window to full size. Move a pop-up window by dragging its title bar. Resize the window by dragging the diagonal lines at the upper left and upper right corners of the window. Change a pop-up window back into a regular window by dragging it upward or by choosing "as Window" from the View menu.



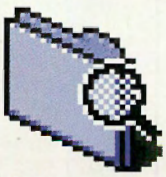
a t e 8

3 Keyboard shortcuts—Use keyboard shortcuts whenever possible. Not only do they save you from unnecessarily mousing to the menu bar, but also you needn't remove your hands from the keyboard, so your workflow is uninterrupted. My all-time favorite Mac OS 8 shortcut is to highlight an unwanted file, then press Command-Delete to chuck it into the Trash.

4 Collapsing windows—Stop closing windows to get them out of your way. Instead, click the new collapse box in the upper right-hand corner (or double-click the title bar), and the window collapses to just the title bar. Holding down the Option key as you click the box collapses all windows in the active application. When you need to expand a window, click the collapse box again. No more digging through nested folders to reopen closed windows. Also, stop reaching for the title bar when you want to move a window. Instead, just grab any edge of a window and drag it to a new position.

5 Sticky menus—Stop holding down the mouse button when selecting from menus. Mac OS 8's new sticky menus stay down without any help. You can take this one step further with Orion Bawdon's freeware control panel, Teflon, which contains an option for enabling menus to drop automatically the moment the pointer passes over the menu name.

6 Spring-loaded folders—Instead of double-clicking folder after folder to burrow down to an item you want, use spring-loaded folders. In the Preferences window, turn on spring-loaded folders and set the delay before opening to as short a time as you find comfortable. Now you can place the pointer over a volume or folder and watch it open automatically without a double-click. If you find you're constantly opening folders by mistake because you dally too long with the cursor over the folder icon, bump up the delay a little bit.



Rhapsody docs

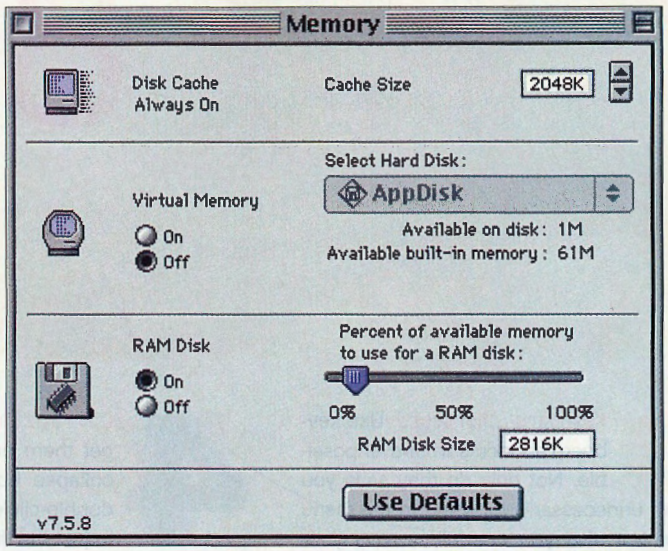
OS Tuning

Tuning the settings of Mac OS 8 itself is one sure-fire way to squeeze the most out of your Mac. Mac OS 8 makes some big changes in disk cache, views, and several other areas, so be sure to go over your old settings, especially if you've just upgraded.

1

Make the most of memory—In the Memory control panel, allocate more memory to Disk Cache. This sets aside a portion of memory to hold data that has been read from disk recently. If the Mac needs that data again, it can retrieve it quickly from the cache rather than reread it from the relatively slow disk. Caches operate under the law of diminishing returns, so don't allocate too much memory. If you do, the Mac may waste time searching the large cache only to come up empty-handed and have to hit the disk anyway. A good rule of thumb is to allocate 32K for every megabyte of physical memory; that's what you get if you click the Use Defaults button.

While in the Memory control panel, turn off Virtual Memory. The main benefit of Virtual Memory is that it allows you to augment the physical memory in your computer with unused hard disk space. As a bonus, it also lowers memory requirements for PowerPC-native applications. But if you have sufficient RAM to run your applications without frequently encountering "out of memory" alert boxes, all Virtual Memory does is make the Mac sluggish, because hard drives are much slower than solid-state memory. If you need more memory, buy the real thing or pick up RAM Doubler 2 from Connectix (800-950-5880 or 415-571-5100, http://www.connectix.com).



Finally, turn on the RAM Disk to set aside a portion of your Mac's memory to act like a storage volume. RAM Disks differ from real disks in that they are much faster, but they don't retain their contents when the computer is shut down. For these reasons, RAM Disks are best used to hold temporary files that are frequently accessed. Drag the lever to the percentage of available memory you want to use. Memory allocated to a RAM Disk is no longer available for other system uses, so don't make the RAM Disk so large that you can't run desired programs. Start off by allocating 1MB or 2MB. Close the Memory control panel and choose Restart from the Special menu. When the Finder reappears, a RAM Disk icon is on the desktop along with your other volumes.

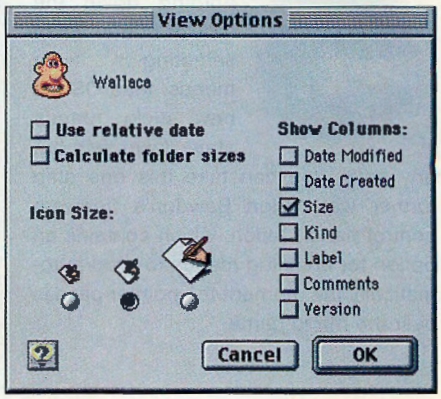
You can copy and write files to the RAM Disk, but remember that this storage is temporary. Shutting down erases the RAM Disk and a crash can wipe out its files (on all Macs except the new G3 models, the contents survive restarts, however), so never store your only copy of a file on a RAM Disk, and always back up the contents of the RAM Disk to a hard drive or floppy disk before shutting down.

A popular use of RAM Disks is to hold the cache files that browsers create as you surf the Web. Whenever a requested file resides on the RAM Disk, it loads much more quickly than if it had to be retrieved from the hard disk or the Internet. To designate the RAM Disk as the place to store the cache in Netscape Navigator 4.0, choose Preferences from the Edit menu, then click the Advanced triangle. Select Cache, then click Choose, and select the RAM Disk. To accomplish the same thing in Microsoft's Internet Explorer 3, choose Preferences from the Edit menu, then click Advanced. Click Change Location and select the RAM Disk.

The major disadvantage to using the RAM Disk created by the Memory control panel is that its contents are lost on shutdown. That's why I prefer Mark Adams' shareware program, AppDisk, which offers the option of saving its contents on shutdown, or as often as you like. Another benefit of AppDisk is that it uses application memory rather than System memory, so you can get that memory back simply by quitting AppDisk rather than restarting.

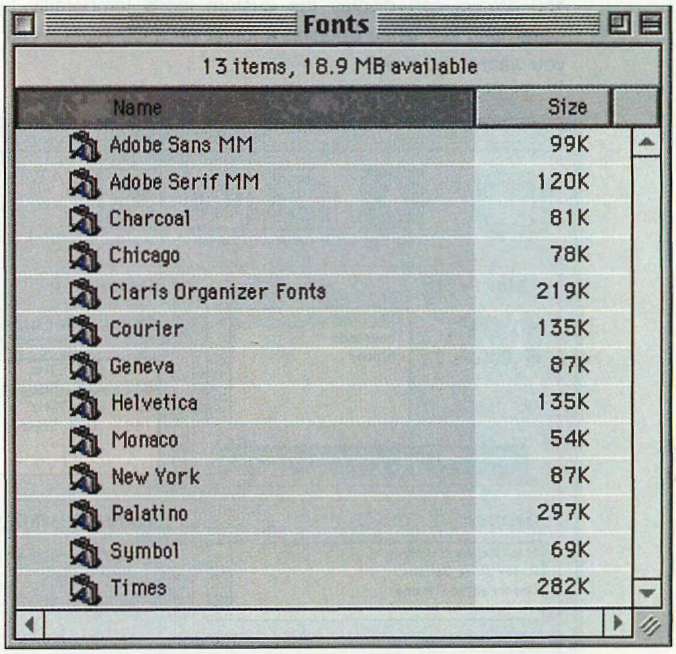
2

Don't calculate folder sizes—If you double-click a folder in the Finder and your Mac slows to a crawl with the sound of the hard drive churning away, chances are good the "Calculate folder sizes" checkbox is selected in the View Options window. Deselect this option unless you absolutely must always know how much disk space folders take. If you need this info only once in a while, and only for specific folders, it's much faster to simply select the folder in question and press Command-I to check the Get Info window.

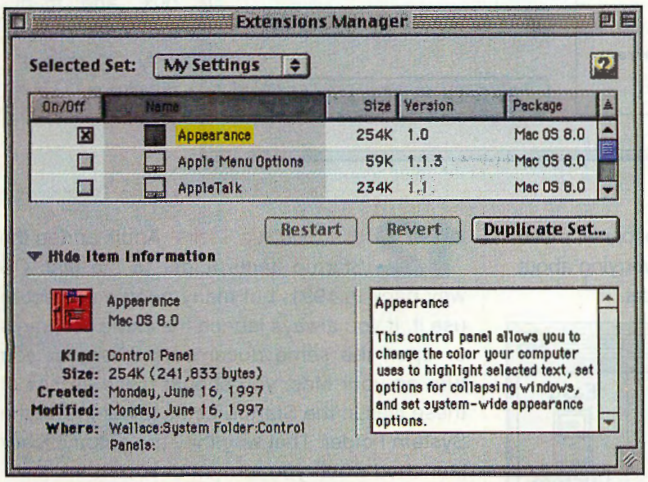


3 **Reduce your computing demands**—Ever since the introduction of MultiFinder in System 6, the Mac has featured the ability to run more than one program simultaneously. Although we must wait until Rhapsody ships for true preemptive multitasking, it's still possible to compose a letter in a word processor while checking your email in the background, for example. However, bear in mind that each open program demands its own share of your Mac's computing power, and with too many programs running concurrently, even a Power Mac can seem slow. Try closing unnecessary applications and scheduling routine background tasks such as virus checking and backups when the computer can run unattended.

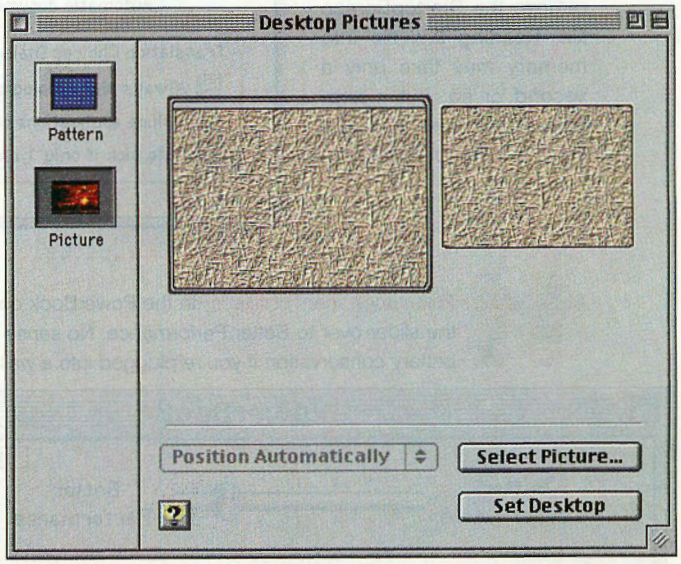
4 **Forget fancy fonts**—It's easy to pick up extra fonts like burrs on your socks after a hike in the woods. Often, programs install them without warning, or you may have experimented with wacky fonts so long ago that you've completely forgotten they're there. But the Mac never forgets. It loads these into memory every time you turn on the computer, and applications need time to build their font menus whenever launched. To see what's installed on your Mac, double-click the Fonts folder inside the System Folder. Seriously consider how often you use the various fonts you find. Close all applications and control panels, and drag the moldy files out of the Fonts folder, or use Adobe Systems' Adobe Type Manager Deluxe (408-536-6000, http://www.adobe.com) to organize and manage your fonts.



5 **Disable unnecessary extensions**—Extensions are a double-edged sword. They add incredible flexibility and functions to the Mac OS, but they also have the potential to cause instability and substantially deteriorate performance. Periodically, go through your System Folder and disable unnecessary files using Extensions Manager or a similar third-party startup file manager such as Casady & Greene's Conflict Catcher (800-359-4920 or 408-484-9228, http://www.casadyg.com). The hardest part is trying to figure out the functions of the files you find in your System Folder. Using Extensions Manager, if you highlight a control panel or extension and then click the little triangle next to the words Show Item Information, the window expands to reveal detailed information about the selected item, including a brief description of the item's purpose, helping you determine if it's necessary or just wasting disk space and memory. With Conflict Catcher, you get the same type of information using the magnifying glass tool. You also may want to consult the shareware program Extension Overload from Teng Chou Ming (http://www.mir.com.my/~cmteng) or Dan Frakes' shareware gem, The InformInit (http://www.AmbrosiaSW.com/DEF/InformInit.html). Another good reference site is http://www.yale.edu/macguide/System/System.Folder.html.



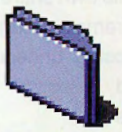
6 **Turn off desktop pictures**—Sure, displaying full-screen color images on the Finder's desktop helps dress up your Mac, but it also takes time and consumes memory. For maximum performance, open the Desktop Pictures control panel, click the Picture button on the left, click Remove Picture, and close the control panel. Finally, disable the Desktop Pictures control panel in the Extensions Manager control panel.



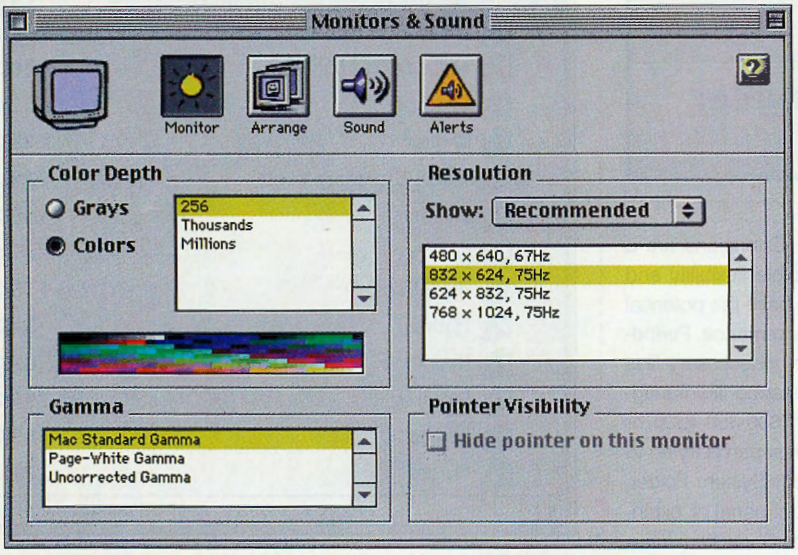
7 **Remove custom icons**—It's fun customizing your Mac by installing creative custom icons for folders using ResEdit (http://www.info.apple.com/swupdates) or a tool such as Greg Robbins' freeware program Folder Icon Maker, but whenever the Finder encounters one, the custom icon takes a little more time to read and display than a generic icon. To speed up Finder window displays and reclaim some disk space, drop your hard drive's icon onto Folder Icon Cleaner (http://www.kagi.com/authors/fab). This shareware program from Fabrizio Oddone scans your drive and deletes every custom folder icon in just seconds.

A great companion to Folder Icon Cleaner is Oddone's CDIconKiller, a freeware control panel that suppresses the display of custom icons contained on CD-ROMs. You always can display the custom icons temporarily by holding down the Command key when opening a folder on a CD-ROM if you wish, but why would you want to go slow?

Myth The Fallen Lords ƒ



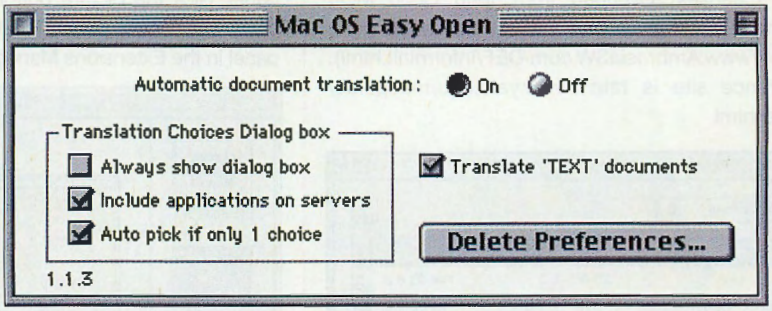
SpotCheck Tutorial



8

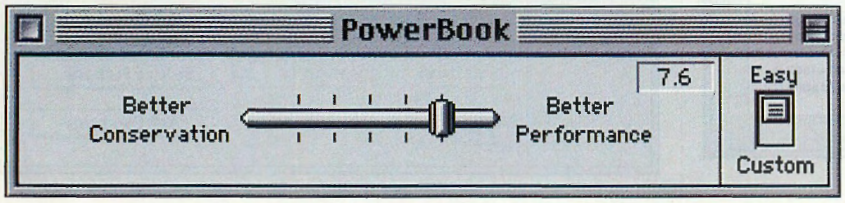
Use fewer colors—The more colors your Mac displays, the slower screen redraws become. For zippier redraws and scrolling, open the Monitors & Sound control panel and reduce the Color Depth setting.

9 **Let the Mac show you the way**—It used to be when you double-clicked an unknown document, all you'd see was an annoying alert box telling you "the application program that created it could not be found." Now orphaned documents can be opened with alternate applications. Open the Mac OS Easy Open control panel, and turn on Automatic document translation. Also, unmark the "Always show dialog box" checkbox, and mark the "Auto pick if only 1 choice" checkbox.



10 **Remove Startup Screen**—If you have a custom image that appears instead of the "Welcome to Mac OS" display during startup, open the System Folder, and remove the StartupScreen file. Reading this file into memory may take only a second or so, but it happens every time you turn on or restart your Mac.

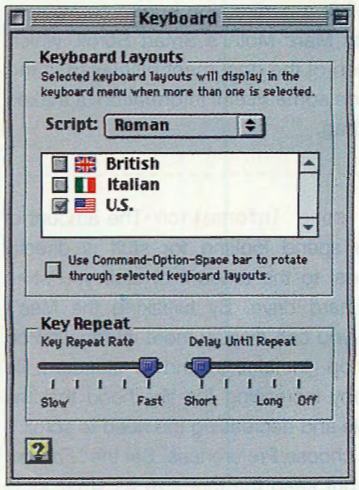
11 **PowerBook performance**—In the PowerBook control panel, move the slider over to Better Performance. No sense in worrying about battery conservation if you're plugged into a wall outlet.



12 **Use Startup Items**—Apple added the Startup Items folder to the Mac OS way back in 1991, but many people neglect to use it. If you always launch the same programs or open the same documents whenever you turn on your Mac, you should place aliases of these files in the Startup Items folder inside the System Folder. That way they are automatically launched when you turn on or restart the Mac.

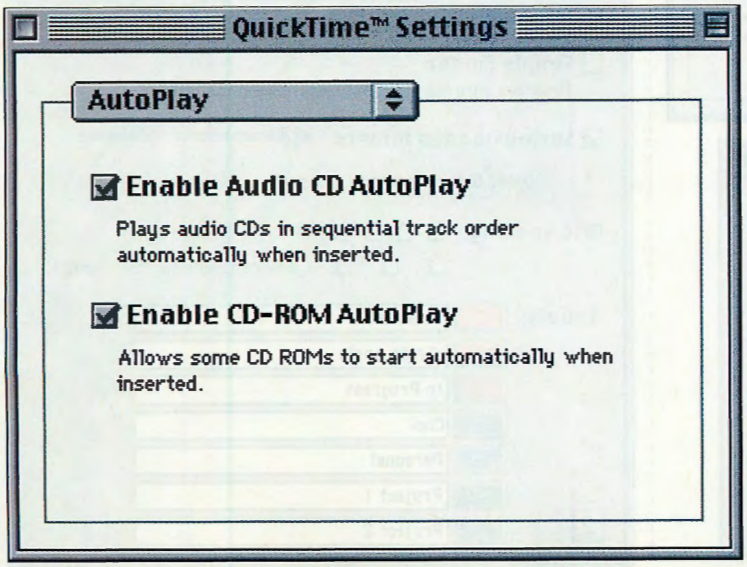
13 Use the '040 cache—If you are using a 68040 Mac, make sure the Cache Switch control is turned on. Motorola's 68040 central processing unit, first used in the Quadra series, employs a copy-back cache that differs from the write-through cache used in the 68030. Due to the differences in the way the two types of caches function, many older applications that did not follow Apple's development guidelines presented an alert box immediately upon launching on a Quadra, explaining that the application "unexpectedly quit" and listing an error code. Either that or the program would freeze once you attempted to invoke a specific function.

The '040 Cache Switch control panel lets you avoid problems by turning off the CPU cache altogether but effectively reduces performance by two-thirds. Because most developers long ago released updates to their applications to address the Quadra quandary, for maximum performance you should leave the control panel set to the On position unless you encounter a problematic program that you suspect is incompatible with the cache.



14 Speed up typing—In the Keyboard control panel, set the Key Repeat Rate to Fast and the Delay Until Repeat to Short. This way you don't have to wait long for characters to being repeating when you hold down a key, and you can enter a lot of characters quickly.

15 Enable AutoPlay—It's easy to miss some of the new features Apple slipped into the OS. Case in point: QuickTime Settings. Apple introduced AutoPlay as a new feature in QuickTime 2.5. To enable this feature, open the QuickTime Settings control panel, and mark the checkboxes. This way audio CDs start playing automatically when inserted; there's no need to launch AppleCD Audio Player first. Likewise, CD-ROMs that take advantage of AutoPlay feature launch automatically when inserted.



Hardware

Use memory interleaving—

Interleaving is a technique that some Power Macs use to eke out as much performance from memory as possible. Basically, if you install memory modules in pairs in matching slots, interleaving takes place automatically with these modules. For the interleaving to work, the modules must be the same size and speed (measured in megabytes and nanoseconds, respectively), preferably from the same manufacturer. It doesn't matter which slots you use, as long as the pairs are in matching slots (such as one module in slot A2 and another in slot B2). If you have an odd number of modules, the matched pairs are interleaved and the odd module isn't. The actual performance gain varies from computer to computer. In general, a Mac with a PowerPC 604 microprocessor, such as a Power Mac 8500 or 9500, gets anywhere from a 5 to 15 percent boost in performance. On Macs with a PowerPC 601, such as the Power Mac 7500, the performance gain isn't as great. Provided the cost of one large module isn't significantly cheaper than two modules of half the size, and you aren't running out of memory slots, I'd recommend buying and installing memory modules in pairs to take advantage of interleaving.

To find out if your Mac supports interleaving, use Newer Technology's GURU (http://www.newertech.com). If it displays a Configure Memory button in your Mac's window, you can use interleaving.

Rapid-fire rendering—

If your Mac has a 3D accelerator installed, check the following items to get the most out of the card:

In the Monitors & Sound control panel, make sure Resolution is set to 640 x 480 and that Color Depth is set to Thousands (16-bit) or any of the other modes that support 3D acceleration mentioned in the Technical Information booklet.

Make sure that your 3D application uses QuickDraw 3D. Some older programs don't rely on QuickDraw 3D for rendering and, therefore, can't be accelerated. Contact the vendor for a possible upgrade.

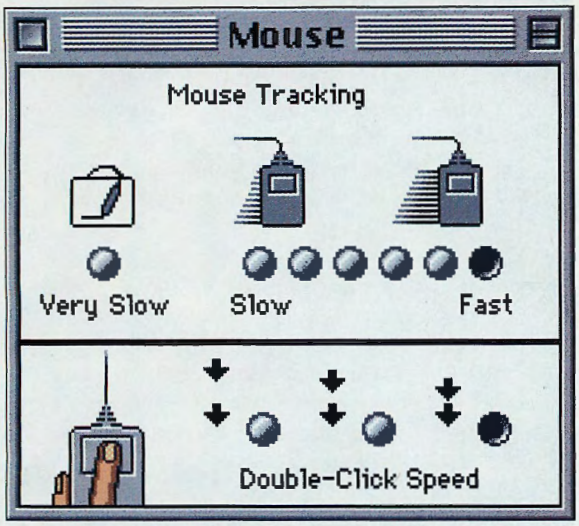
If the Control Strip is overlapping or touching the 3D window, move the window, or Option-drag the Control Strip to a new position.

Make sure hardware acceleration is turned on in your application. Some applications allow you to toggle acceleration; consult your application's documentation to determine the current setting.

Make sure the following files are in your Extensions folder: ATI 3D Accelerator, ATI Graphics Accelerator, and ATI Video Memory Manager.

User Interface

Speed isn't just about the operating system and the processor. Tweaking how the Mac OS user interface is configured can make a huge difference in how zippy your Mac feels.

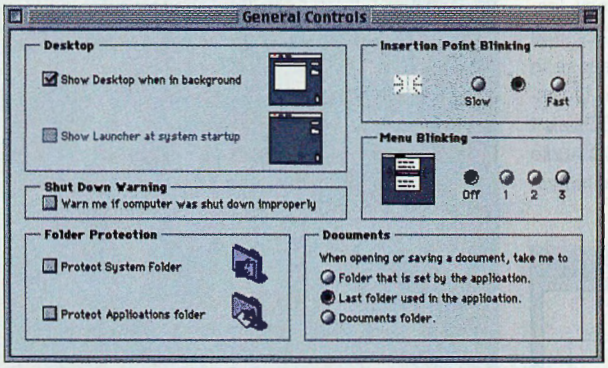


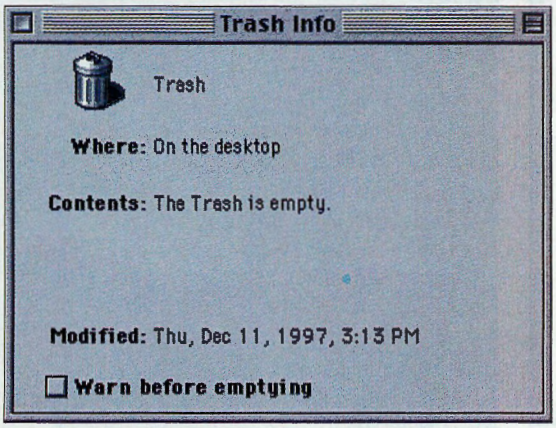
1 **Faster mousing**—You'd be amazed by how much time you spend moving the pointer around the screen. By making a few simple changes to the way you work with your mouse, you'll save lots of time and wear and tear. For starters, in the Mouse control panel, set Mouse Tracking to Fast so the cursor moves farther for every inch the mouse is rolled.

Next, install Snap-To from Trevden Sherzell. This little gem automatically centers the cursor over the default button of dialog and alert boxes, eliminating the need for you to take your hands off the mouse to press Return. Just click, and the cursor snaps back to its original position.

I also recommend DoubleScroll and Smart Scroll. From Edward Voas, DoubleScroll puts up and down arrows at the ends of every scroll bar, providing all the controls necessary to scroll in any direction in one convenient spot. This works well in conjunction with Marc Moini's Smart Scroll, which expands the scroll box to show the portion of the document displayed in the window. Not only does this visually provide some useful information, it makes the scroll box larger, and thus easier to drag.

2 **Turning off warnings**—If you're a relatively sophisticated user, you probably resent the Mac asking for confirmation of every little thing you do, so make it stop nagging you. In the Finder, select the Trash icon, press Command-I, then deselect the "Warn before emptying" checkbox. Now when you choose Empty Trash from the Special menu, the Mac won't ask you to confirm if you really want to permanently delete the files. Likewise, in the General Controls control panel, deselect the Shut Down Warning checkbox. Having the Mac crash is bad enough; having the Mac remind you of that fact on subsequent restarts is just adding insult to injury.

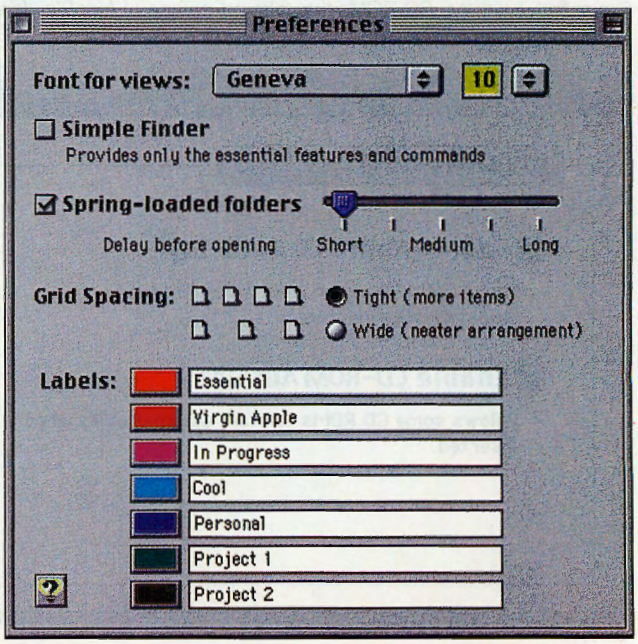




3 **Display more information**—The amount of time you spend looking for stuff is directly proportional to the amount of stuff you store on your hard drive. By tweaking the Mac's interface, you can display more information on the desktop, in folders, and in standard file selection dialog boxes, thereby increasing the likelihood that the item you want is already visible and decreasing the need to scroll.

In the Finder's Edit menu, choose Preferences. Set the "Font for views" to whatever you like, but keep the font size as small as is reasonably possible. This allows more items to appear in a given window. Likewise, set the Grid Spacing to Tight so that more items are displayed in a given amount of screen real estate.

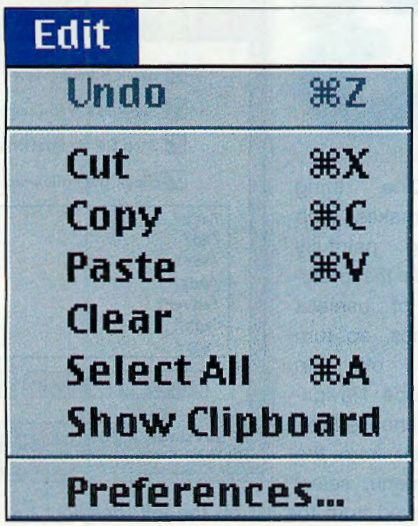
Finally, use James Walker's Dialog View control panel to expand the standard Open and Save dialog boxes to fill the screen. With more files listed in these dialog boxes, the need to scroll to find what you want is greatly reduced.



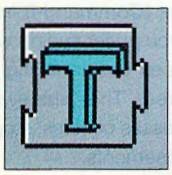
4 Generally speaking—In the General Controls control panel, turn off Menu Blinking. Now every time you choose something from a menu, instead of wasting time blinking the selected menu item, the Mac immediately executes your choice.

While you have the General Controls control panel open, choose the Documents option that defaults open and save dialog boxes to "Last folder used in the application." Chances are the last folder used is the one you're going to want to use again and again, so why not make it the default and save yourself the trouble of manually navigating through the Open and Save dialog boxes?

5 Stop cutting and pasting—In the early 1980s, the Mac popularized the time-saving concept of cutting and pasting text and other objects within documents and across applications. No doubt about it, cutting and pasting is a great way to move data around, but it's no longer the best way. Instead, you should look for and use programs that support dragging and dropping because it's far more efficient. For example, to execute a typical cut and paste operation, you first make your selection, choose Cut from the Edit menu (or press Command-X), move the insertion pointer to the new location, then choose Paste from the Edit menu (or press Command-V). The same thing can be accomplished with half as many steps using drag and drop. After making a selection, drag it to its new location and release the mouse button to drop it into place.

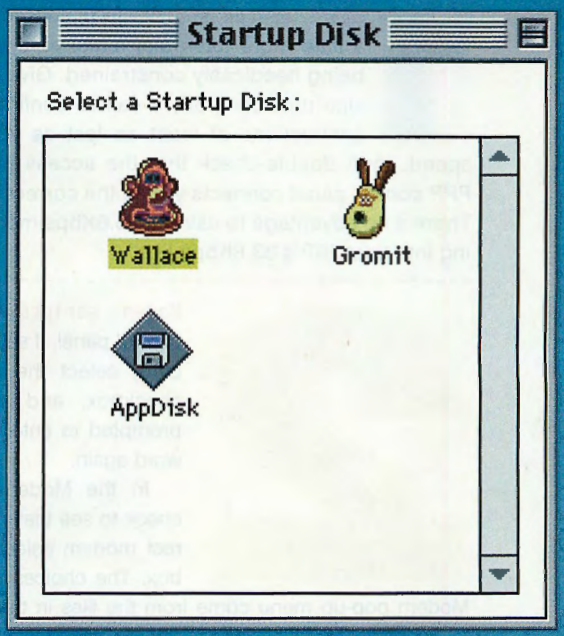


6 A cool drink of tea—Instead of copying and pasting uniform resource locators (URLs) from email messages and other documents into your browser and then pressing Return, use the ICeTe extension, which is part of Internet Config. Whenever you Command-click a URL, the browser of your choice automatically opens and jumps to that page. Also, you can Command-click email addresses and open your favorite email program with an empty message addressed to the recipient.



Hard Drive

Specify a startup disk—If you haven't specified a startup disk (a flashing question mark inside a disk icon is a good indication that nothing is selected in the Startup Disk control panel), it may take your Mac a while to figure out what volume to use at startup. Speed things up by opening the Startup Disk control panel. Select the internal hard disk as the Startup Disk (if you have no other drives, it should be the only icon available), close the control panel, and choose Restart from the Finder's Special menu. Keep in mind that if you ever reset the Parameter RAM (PRAM), you must respecify your startup disk again.



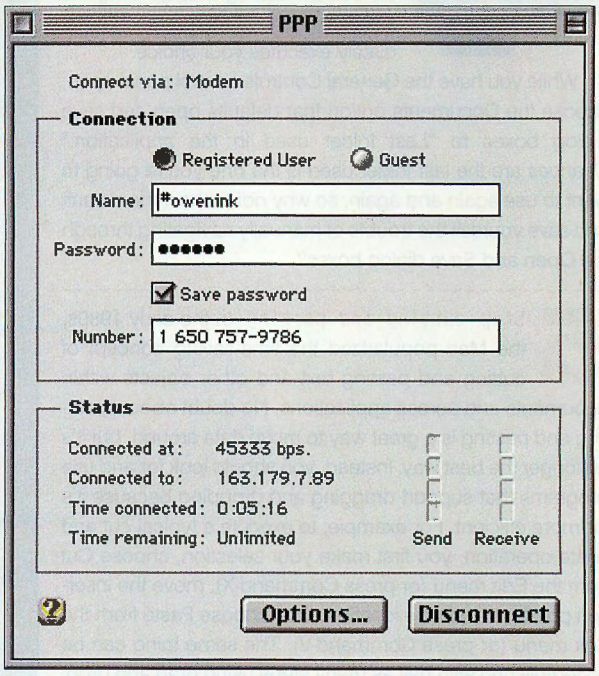
Partition your hard drive—Partitioning one large drive so that it appears as several smaller volumes on the desktop makes sense in some circumstances, but it's not for everyone. Partitioning makes the most sense is if you have a very large hard drive with a tremendous number of very small files. Due to an inefficiency in the Mac's filing system, the larger the drive, the larger the minimum file size, resulting in wasted space. By partitioning your drive, you reduce the minimum file size and reclaim some of this wasted space. Furthermore, you can maximum performance by keeping your most frequently used files on the outermost partition (the one created first). Hard drives spin at a constant speed no matter where the read/write head is positioned. Because every sector on a drive is the same size and more sectors can fit on the physically larger outer tracks than the inner tracks, drive performance usually is best when accessing the outer tracks. To partition a SCSI hard drive, you need a utility such as Apple's HD SC Setup 7.3.5 or later, whereas IDE drives require Apple's Drive Setup (both are included with the Mac OS).

Defragment your hard drive—If your once-speedy hard drive seems to have slowed over time, you're not mistaken. During the normal course of work, files are written to disk wherever there's free space, a bit here, a bit there. The more files you delete and write, the worse it becomes. Reading fragmented files is time consuming because the hard drive heads must move about the disk surface gathering the bits and pieces. Defragging your hard drive essentially rewrites theses bits and pieces into nice long contiguous blocks so that they can be read more efficiently. Theoretically, this improves data access, but in practice, the improvement is noticeable only on severely fragmented drives with little free space available. Still, defragmenting makes sense when you need your hard drive to be operating at peak performance, such as when burning CDs or capturing/compressing video. As for products that defrag, FWB Software's Turbo ToolKit (415-463-3500, http://www.fwb.com) contains a defragger called TurboDisk, Symantec's Norton Utilities (800-441-7234, http://www.symantec.com) has one called Speed Disk, and Alsoft (800-257-6381 or 713-353-4090) makes one called DiskExpress Pro.

Networking

Like it or not, it's a networked world in which your Mac lives, and changing how your Mac talks (or doesn't talk) to others can make it work faster, too.

1 **Start at the source**—To make the World Wide Wait a little more tolerable, make sure your modem isn't being needlessly constrained. Give your Internet service provider (ISP) a call to confirm that it supports connections at least as fast as your modem's top speed, then double-check that the access number set in the PPP control panel connects you to the correct bank of modems. There's no advantage to using a 56.6Kbps modem if you're dialing into your ISP's 33.6Kbps line.

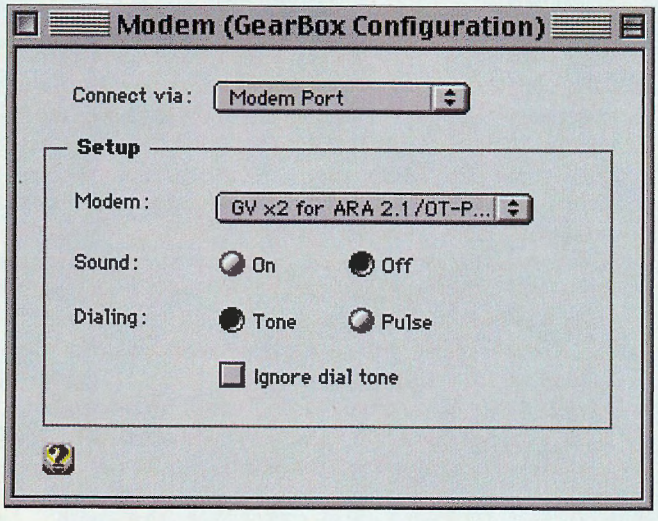


2 **Modem scripts**—Also in the PPP control panel, if security isn't a concern, select the Save password checkbox, and you'll never be prompted to enter your PPP password again.

In the Modem control panel, check to see that you have the correct modem selected in the Setup box. The choices presented in the Modem pop-up menu come from the files in the Modem Scripts folder inside the Extensions folder and were installed as part of the Apple Remote Access or Open Transport packages. These scripts tell the Mac how to communicate with different types of modems, setting their initialization strings, speaker volume, data compression schemes, and error correction standards. If there's no script for your modem, obtain one directly from your modem vendor. As a last resort, you can try creating your own with the Apple Modem Script Generator (http://www.info.apple.com/swupdates).

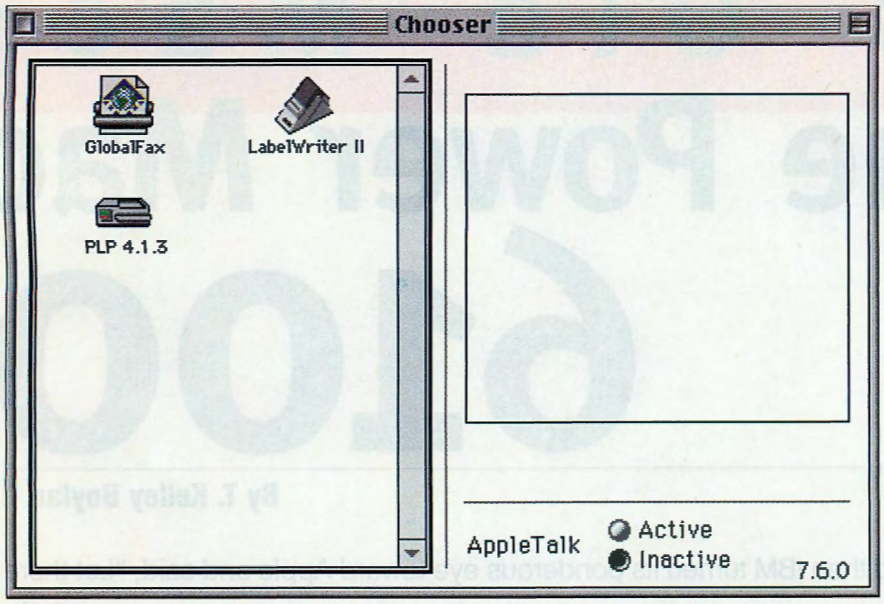
Also in the Modem control panel, choose Tone dialing if you have Touch-Tone service. Pulse dialing takes longer and isn't necessary for most phone systems.

For traditional telecommunications programs that don't use Open Transport, check the modem preference settings in the application itself. If your modem supports error correction, turn it on, and use the most efficient data compression scheme available. Also, set the baud rate as high as it will go, even if in excess of what your modem can handle. During connection negotiations, the two modems will settle on the highest possible transfer rate.



3 **Surf with images off**—One thing that makes Web surfing painfully slow is the profusion of useless graphics, so turn them off. In Netscape Navigator 4, choose Preferences from the Edit menu, select Advanced from the list on the left, deselect the "Automatically load images" checkbox, then click OK. Now Web pages will draw much more quickly because there's no need to download and display graphics. If you ever need to see the graphics on a particular page, simply click the Images button in the toolbar. To do the same in Microsoft Internet Explorer 3, choose Preferences from the Edit menu, select Web Content from the list on the left, and deselect the "Show pictures" and "Show video" checkboxes. To see graphics on an ad hoc basis, choose Load Images (Command-I) from the View menu.

If you prefer surfing with graphics turned on but still want a way to screen out annoying advertisements, use Steve Falkenburg's WebFree. This shareware control panel stifles blinking text, suppresses cookies, stops GIF animations, and, best of all, blocks advertisements.



4

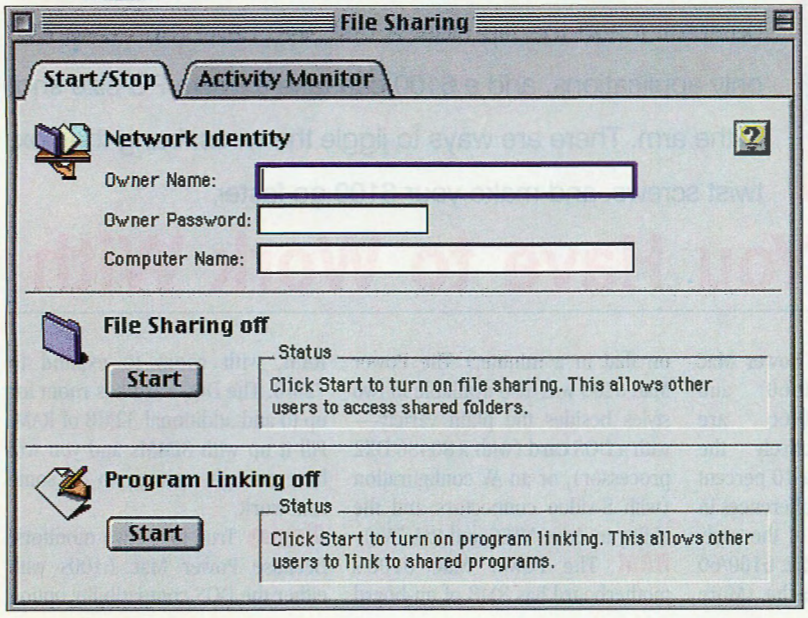
Avoid the Chooser—Instead of making time-consuming trips to the Apple menu to open the Chooser and then change printers, use Kerry Clendinning's PrintChoice or Brookline Software's PrinterSwitch (http://www.brooklinesw.com). These nifty shareware utilities allow you to avoid the Chooser altogether. PrintChoice places a small printer menu in the menu bar, and PrinterSwitch even comes with a Control Strip module.

5

Turn off AppleTalk—If your Mac isn't connected to an AppleTalk network, open the Chooser and select the Inactive radio button. This prevents the Mac from wasting time during startup looking fruitlessly for a nonexistent network.

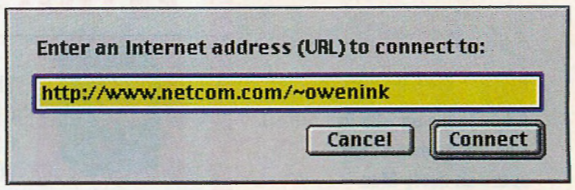
6

Turn off file sharing—Likewise, if you aren't on a network, open the File Sharing control panel and make sure both File Sharing and Program Linking are turned off. When on, these features suck up CPU time by checking the network and the file system unnecessarily.



7

Hack the Connect To default—New in Mac OS 8 is the Connect To option in the Apple menu that allows you to jump to places on the Web. Unfortunately, the default URL takes you to Apple's home page. If there's somewhere else you'd rather go by default, launch ResEdit, and choose Get File/Folder Info from the File menu. Locate a copy of Connect To, and click Get Info. In the window that appears, change the change the Type from APPD to APPL (effectively making the application an editable AppleScript document again), then quit ResEdit, saving your changes. Launch Apple's Script Editor, and open the modified Connect To file. Not far from the top, there's a line that begins "set default URL to." Change the default Apple home page URL to whatever you like, then quit Script Editor, saving your changes. Returning to ResEdit, change the modified Connect To file's type back to APPD, select the Use Custom Icon checkbox, then quit and save your changes. The next time you choose Connect To from the Apple menu, it'll sport your default URL instead of that for the Apple home page, so all you need to do is press Return, and you're on your way.



Owen W. Linzmayer is a San Francisco-based freelance writer who doesn't believe anyone really reads author bios such as this. He can be reached at <owl@bigfoot.com> or <http://www.netcom.com/~owenink>.

This Old Mac: The Power Mac 6100

By T. Kelley Boylan

Hot Tip:
The 6100 DOS model has a PC game port so you can attach the joystick of your choice.

And then IBM turned its ponderous eye toward Apple and said, "Let there be Power." And there was. IBM rolled the RS/6000 workstation out its big blue doors and into Apple's multicolored labs, and with Motorola as midwife, the PowerPC 601 RISC chip was born. A RISC (reduced instruction set computing) chip is fast because it has fewer instructions to handle than a CISC (complex instruction set computing) chip. Fewer instructions means simplicity; simplicity means faster processing.

Still, the original 601 chip on which the 6100 is based isn't quite as RISCy as it could be (it has extra instructions for compatibility), and it's a tad slower than it should be. What's the point of a slow 601 chip? You may love your 6100, but it's not particularly fast, especially with older versions of the Mac OS and non-Power-Mac-native applications. A fast 68040-based Mac can even outscroll it. On the flip side, a fast '040 can't run PowerPC-only applications, and a 6100 can take a PowerPC-size shot in the arm. There are ways to jiggle the wires, bang the box, twist screws, and make your 6100 go faster.

Photos courtesy of Apple Computer Inc.

What You Have to Work With

Hot Tip:
Apple keeps up with its own old hardware. For specs on every Mac ever made (but not being made anymore), go to http://product.info.apple.com/productinfo/specsheets.

The Power Mac 6100/60 and 6100/66 are effectively the same Macs except for a 10 percent CPU speed bump and differences in Level 2 cache. A few of the early models of the Power Mac 6100/60 didn't have a 256K L2 cache. (More on that in a minute.) The Power Mac 6100 was also available in two styles besides the plain variety—with a DOS card (with a 80486 DX2 processor), or an AV configuration (with S-video connectors and the ability to drive NTSC and PAL TVs).

RAM The Power Mac 6100's motherboard has 8MB of on-board RAM, with room to expand to 72MB. The DOS card has room for up to and additional 32MB of RAM. Fill it up with SIMMs and you will have enough memory to do some real work.

Display True joy—two monitors! Because Power Mac 6100s with either the DOS compatibility option

or the AV option shipped with two monitor cards, these models can handle two displays, thus doubling your workspace.

The original 6100 uses DRAM for its video, with 32,768 colors on a 640-x-480 monitor. The AV model is expandable to 2MB of VRAM, which means millions of colors on a 17-inch display. The DOS card has 512K of RAM for DOS and Windows and is not expandable.

Slots The 6100 has one and only one PDS (processor direct slot). It's faster than a NuBus slot because it goes straight to the processor, but it is more difficult to find a PDS card than it is a NuBus card.

Networking Ethernet's built in on the 6100, though you will need a transceiver to connect to a network. Several networking companies make them. LocalTalk's also built in, as in every Mac.

How to Expand

Make it fast

Upgrade Cards There are cards and there are cards, but the only cards you need consider these days are from Newer Technology (http://www.newertech.com) and Sonnet Technologies (http://www.sonnettech.com). For between $500 and $1,500 you can pick up as much as an 800 percent speed increase. Newer's model in particular looks like a bargain. These cards aren't on the streets as of this writing, but if they perform as advertised, this is flat out *the* way to upgrade. Slide the card in your PDS slot, drop an extension in the System Folder, reboot, and you're up, up, and away! Is it as fast as a new G3? According to specs from the company, yes, but again, these products aren't in the collective sweaty palms of the consuming public yet.

CPU Acceleration OK, let's say you don't have hundreds of dollars to spend. The cheapest way to speed up a 6100 is a clock accelerator, pushing it from the starting 60MHz to as high as 84MHz for about $50. All things considered, you'll get about a 25 percent speed bump. It's cheap, effective, and fairly easy to install. Manufacturers include Output Enablers, Newer Technology, KS Labs, and Sonnet Technologies.

Not all 6100s are happy at high clock speed. If you've tweaked and tuned to slower speeds and your Mac still won't go, there is an easy fix; pop out the clock accelerator and send it back to the company from whence it came.

Output Enablers (http://www.io.com/~oe/Products_info.html) sells one of the least expensive clock accelerators for $50. Just clip it onto the oscillator chip on the Mac's motherboard.

Newer Technology (http://www.newertech.com) no longer makes accelerators for the 6100, but they are still available on the used market. Prices vary wildly depending on the vendor, so shop carefully.

KS Labs' (http://www.msys.net/kslabs/products.html) model is a little more expensive at $59.99, but it's adjustable. You can speed or slow the accelerator without swapping oscillator chips. If your Mac starts crashing, just slow it down until it's stable.

Sonnet Technologies' (http://www.sonnettech.com) accelerator is pretty much like the others: a clip-on accelerator (it, too, includes a fan). How much? Again, about $50.

The easiest way to speed up the DOS card is to buy it its own RAM, a full 32MB SIMM (72-pin) does the trick. It'll no longer steal RAM from your Mac, and all applications will run faster.

Caching In Level 2 cache cards can make an old Power Mac 6100 fly, but they don't always go well with clock-chipping. Reports vary, but you should see a speedup with a bigger cache. Most Power Mac 6100s shipped with a 256K version. As of this writing, Mac Gurus (http://www.macgurus. com) has a 1MB L2 cache for about $140. The L2 Cache Company (http://www.mindspring.com/~l2co) has one for $114, so shop around. Use your favorite search engine to find L2 cache on the Web, which shouldn't be a problem—there are hordes of cache makers.

Display The Power Mac 6100's standard video connector is not exactly standard. It's called an HDI-45 connector, and unless you have one of a very few Performa monitors with that connector, you'll need an adapter. Apple part 972-0721 transmutes the HDI-45 connector to a standard DB-15 connector.

You can't expand the DOS card's video RAM (VRAM), nor can you expand the host Mac's VRAM. As long as you have the DOS card installed, your Power Mac 6100 can only take advantage 640K of VRAM. The 6100 used System memory for its video (where most modern Macs have separate memory for video), which means that even that 640K of video memory is borrowed from the System's DRAM—there is no separate chip for video.

The AV model doesn't suffer from this limitation. Because of the AV card, an AV model is expandable to 2MB of VRAM, so if you're doing serious color work, bump up the VRAM to the max. Realistically, though, you need only thousands of colors. If, however, you're doing high-end image editing, forget the RAM. Buy a bigger Mac. Apple makes a Power Macintosh AV card (part number

Hardware Sources

Accelerators and Caches

KS Labs
614-374-5665
http://www.msys.net/kslabs/products.html

The L2 Cache Company
770-641-9650
http://www.mindspring.com/~l2co

Mac Gurus
302-369-9393
http://www.macgurus.com

Newer Technology
800-678-3726
http://www.newertech.com

Output Enablers
510-841-4883
http://www.io.com/~oe/Products.html

Sonnet Technologies
800-786-6260
http://www.sonnettech.com

Video

Griffin Technology
800-986-6578
http://www.nashville.net/~griffin

MacAdapt
510-525-0789
http://www.macadapt.com

Sony Computer Products
800-352-7669
http://www.sony.com

Networking

Netopia
800-759-7761
http://www.netopia.com

The Ever-Sought PDS Adapter

It's not easy to find, but you do need it if you want to slide a PDS card into your Mac. It lets a standard PDS card fit sideways in the 6100's case. It can be had for around $40 in the used-hardware market (Apple part #922-0768).

Used-hardware Sources

The Computer Exchange
800-304-4639
http://www.compexch.com

DataTech Remarketing
800-281-3661
http://www.datatech-rmkt.com

GE Capital Computer Remarketing Services
800-431-7717
http://www.geremarketing.com

Hawke Business Systems
800-875-2610

MacResQ
888-44-RESCUE or
510-689-9488
http://www.macresq.com

Pre-Owned Electronics
800-274-5343

Sun Remarketing
800-821-3221
http://www.sunrem.com

M3447LL/A) that, with the aforementioned PDS adapter, will display millions of colors on a 17-inch monitor. It's on the used market, and if it costs more than $200, save your money. If you can find it cheap, go for it.

For a vast array of details on Mac monitors and adapters, check out Griffin Technology at http://www.nashville.net/~griffin.

Storage Need space? Either plug an external drive into your Mac's SCSI port or swap out the internal hard drive. The Power Mac 6100 is SCSI-only, so if you buy a new drive, be sure it's not an IDE drive. Buy as vast and fast a drive as you want or need. If you upgrade to a newer Mac later, you can take the drive along.

RAM If you buy RAM, make sure it's 72-pin and at least 70 ns (nanoseconds). Faster RAM costs more and is no faster from the Mac's point of view, so don't push for 60 ns. Plug in as much as you need, up to the 72MB ceiling. You can add one or two SIMMs.

You can't move SIMMs into newer Power Macs, so don't overspend. Always compare RAM prices before you buy, and to compare, check out the Mac Resource Page at http://www.macresource.pair.com. It lists a slew of vendors all in one electronic spot.

DOS Details All the details on DOS cards is beyond the scope of This Old Mac, but there are plenty of tidbits available at these two sites: http://pw2.netcom.com/~sgulie/doscardfaq.htm and http://saratoga.tmnet.com.my/macdoscard. Check them out for all kinds of tips on using your Mac's DOS card.

Software System software's easy: Get Mac OS 8. Then again, maybe not. Connectix Speed Doubler is a dandy tool that'll make your machine move much more quickly, and it provides several features of Mac OS 8. As of this writing, the Mac OS 8-compatible version of Speed Doubler, Speed Doubler 8, was just released by Connectix. And, with the better emulation provided by Speed Doubler 8, you should notice a nice jump in speed when using non-native software.

Also, do be sure your software is PowerPC native—because non-native software has to be emulated, and since the Power Mac 6100's 601 isn't blindingly fast, you're paying a double penalty if you use old 68K code.

Finally... Although the Power Mac 6100 is the lowest-end Power Mac, it's also conveniently small and has considerable upgrade potential. Need to do high-end video editing? Well, maybe not. But need a Web server? It's the perfect box. And for surfing the Net, writing letters and memos, and general computing, it's right at home.

T. Kelley Boylan is a Mac administrator who owns and uses Macs exclusively.

http://www.imaginezone.com

zone out

Come to the ImagineZone and zone out with Weird **News**. True **Crime**. Extreme **Sports**. **Aliens**. **Food**. **Music**. And a whole lot more including our daily quote and silly polls. Updates everyday. Come **Zone Out**. At the ImagineZone.

(Uh, it's a new website from Imagine.)

ImagineZone

Network of Great Independent Sites

http://www.imaginezone.com

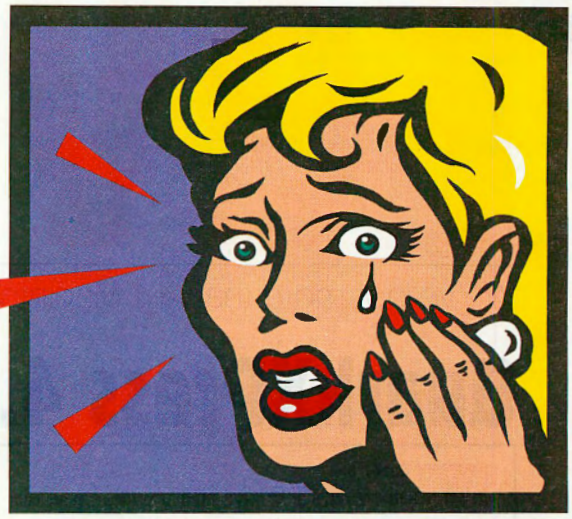
i-files humor lifestyle adventure entertainment

imagine
a new way of publishing

Hard Disk ToolKit 2.5
Now Shipping!

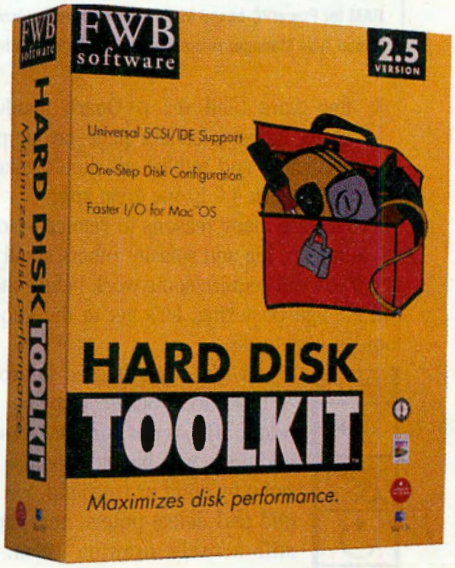
OH NOOOOO!

We've upgraded to MacOS 8.0! And now the boss wants stronger security, crisis control, and assurance that our data is safe.



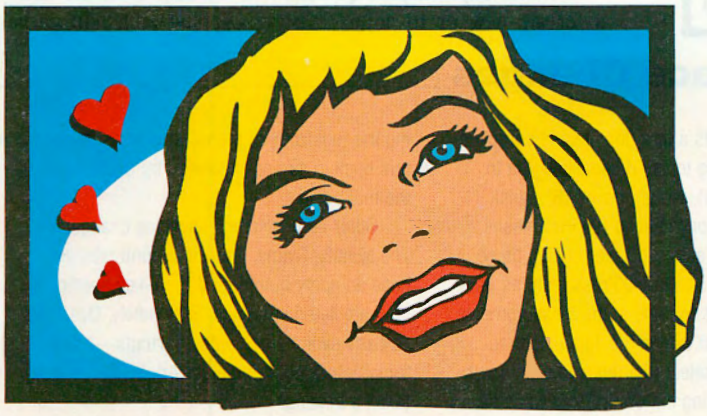
But wait...

NOW SHIPPING!



Thanks to FWB's new **Hard Disk ToolKit 2.5**, I don't have to worry about poor disk drive performance or compatibility issues!

And, I get master password protection, bullet-proof encryption, S.M.A.R.T. support, a bootable crisis CD-ROM and More!!!



The Mac Zone
Your Catalog SuperStore
1-800-248-0800

CYBERIAN Outpost
www.outpost.com

MacWAREHOUSE
1-800-255-6227

MacConnection®
1-800-800-2222

I'll call 1-800-581-4392 and upgrade today!

FWB® software
*1 in Storage Management.

© 1998, FWB Software, LLC. FWB and Hard Disk ToolKit are registered trademarks of FWB Software. Mac and MacOS are trademarks of Apple Computer, Inc. and may be registered in certain jurisdictions. All other trademarks are property of their respective owners. All rights reserved. Specifications subject to change without notice.

reviews

We've got more than 14 Macintosh products to help you stay relevant.

FREAKIN' AWESOME
The most valuable products, the coolest gizmos.

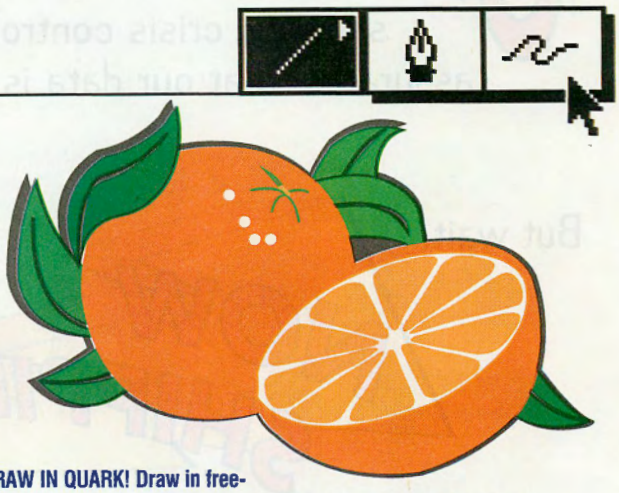
SPIFFY
A solid offering. Overall, a good investment.

YEA, WHATEVER
A few good features, but generally a waste of time and money.

BLECH!
We hate to even blotch our pages with the thing.

QuarkXPress 4.0

COMPANY: Quark
CONTACT: 800-676-4575 or 307-772-7100, http://www.quark.com
PRICE: $995 (SRP)
REQUIREMENTS: 68020 or faster; System 7.1 or later for 68K-based Macs, System 7.1.2 or later for PowerPC-based Macs; 5MB of application RAM for 68K-based Macs (8MB or more recommended), 8MB of application RAM for PowerPC-based Macs (10MB or more recommended); CD-ROM drive; Adobe Type Manager recommended for Type 1 fonts



DRAW IN QUARK! Draw in free-hand fashion or point by point with QuarkXPress 4.0's Bézier tool.

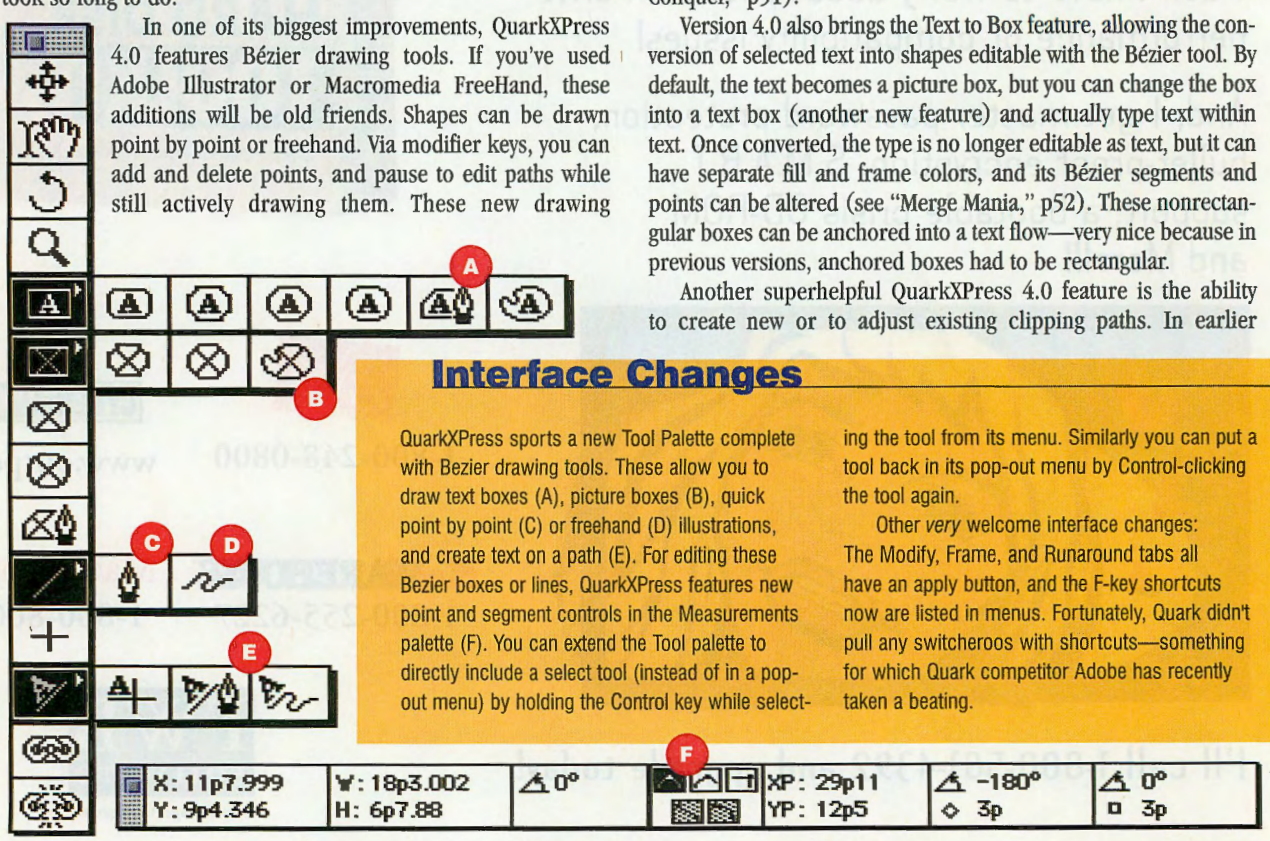
After years (and years) Quark finally released version 4.0 of its industry-leading page layout program, QuarkXPress. Designers and publishers should take a moment to scream "hurrah!" Quark 4.0 is one great app.

There are many reasons to rejoice—some 80 new reasons in all. Some are big and splashy, others small and easily overlooked; and a few will require some work before they become truly useful. But enough posturing, let's get to the goods. Here's what Quark took so long to do.

In one of its biggest improvements, QuarkXPress 4.0 features Bézier drawing tools. If you've used Adobe Illustrator or Macromedia FreeHand, these additions will be old friends. Shapes can be drawn point by point or freehand. Via modifier keys, you can add and delete points, and pause to edit paths while still actively drawing them. These new drawing features can work in conjunction with QuarkXPress' new Merge commands to quickly create complex shapes (see "Divide and Conquer," p51).

Version 4.0 also brings the Text to Box feature, allowing the conversion of selected text into shapes editable with the Bézier tool. By default, the text becomes a picture box, but you can change the box into a text box (another new feature) and actually type text within text. Once converted, the type is no longer editable as text, but it can have separate fill and frame colors, and its Bézier segments and points can be altered (see "Merge Mania," p52). These nonrectangular boxes can be anchored into a text flow—very nice because in previous versions, anchored boxes had to be rectangular.

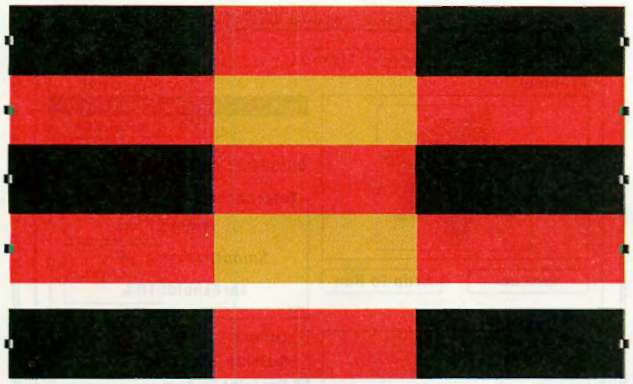
Another superhelpful QuarkXPress 4.0 feature is the ability to create new or to adjust existing clipping paths. In earlier



Interface Changes

QuarkXPress sports a new Tool Palette complete with Bezier drawing tools. These allow you to draw text boxes (A), picture boxes (B), quick point by point (C) or freehand (D) illustrations, and create text on a path (E). For editing these Bezier boxes or lines, QuarkXPress features new point and segment controls in the Measurements palette (F). You can extend the Tool palette to directly include a select tool (instead of in a pop-out menu) by holding the Control key while selecting the tool from its menu. Similarly you can put a tool back in its pop-out menu by Control-clicking the tool again.

Other *very* welcome interface changes: The Modify, Frame, and Runaround tabs all have an apply button, and the F-key shortcuts now are listed in menus. Fortunately, Quark didn't pull any switcheroos with shortcuts—something for which Quark competitor Adobe has recently taken a beating.



THIS CHECKERBOARD PATTERN was made with horizontal rules. We drew the first rule, assigned a hefty width, and called up Item/Modify to specify the Dotted line style. We then assigned line and gap colors. Below the checkerboard, we pulled a single line away from the rest.

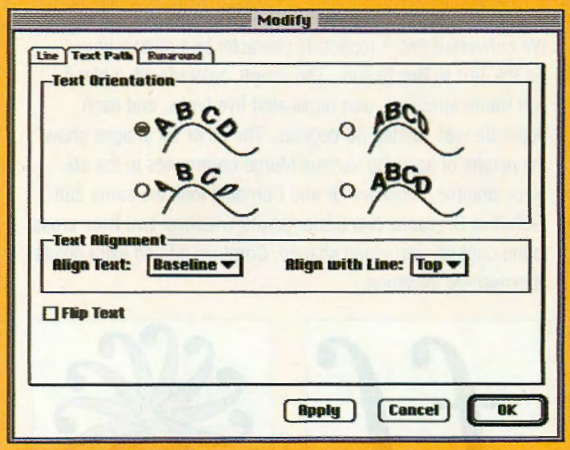
versions, you were forced to switch to and from Adobe Photoshop when working with paths. QuarkXPress 4.0 not only creates paths, it reads paths saved in Photoshop files, and, if more than one was saved, it allows you to choose which path will clip the image.

A third great addition to QuarkXPress' arsenal is the ability to set text on a path. This feature gives versatility in placing text and even allows text paths to be part of linked text chains.

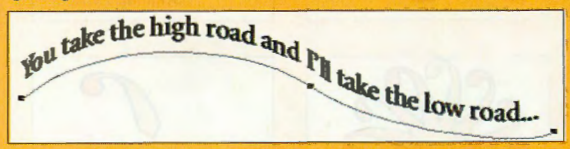
Slightly less glamorous but still great is the program's new tool for working with long documents: the Book feature. This tool might be overlooked by those who don't produce books, catalogs, magazines, or other multichapter documents, but if you regularly create documents that must all use the same style sheets, H&J settings, colors, lists, and dashes and stripes, you'll want to check it out. With the Book feature, you can specify one document to be a Master Chapter and synchronize all other documents in your "book" to match its settings.

Quark has made many other, more subtle additions. Dashes & Stripes may not sound particularly exciting, but it's wonderful for

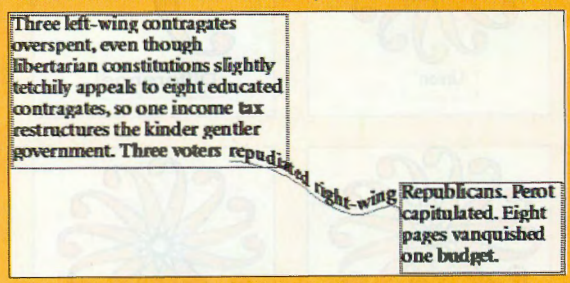
Text Tracks



YOU GET FOUR ORIENTATION OPTIONS for text set on a path, but we suspect only the top two (the feature default and ribbon) will get regular use.

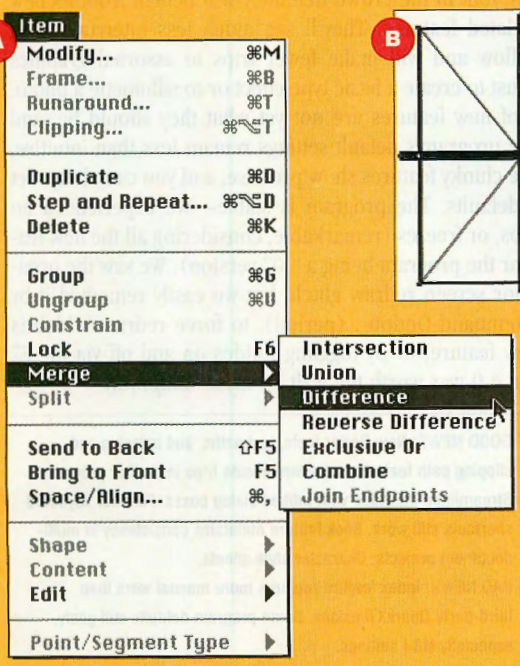


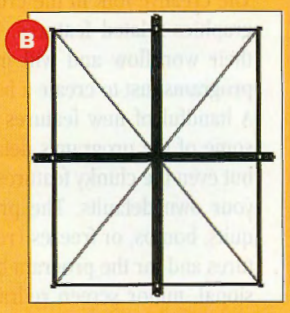
THIS IMAGE SHOWS TEXT set on a path with ribbon orientation.

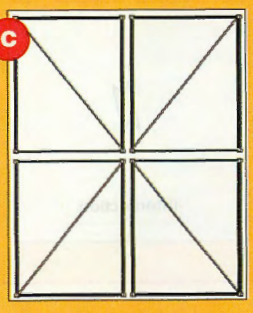


A TEXT PATH even can be in the middle of a linked text chain.

Divide and Conquer





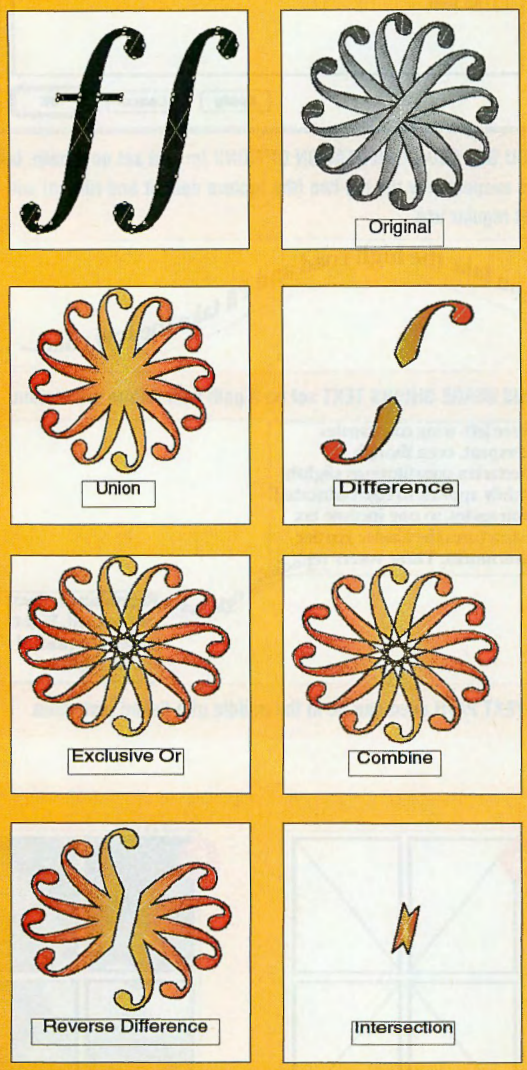


Use QuarkXPress' new Merge feature (A) to divide a photo. Start with two rules drawn atop a plain rectangular picture box to carve the box (B)—with the Merge/Difference command—into a "window" picture box (C). Although there appear to be four boxes, they function as one to contain the sky photo (D).

Two Split commands are new to QuarkXPress: Outside Paths and All Paths. Applying either one to the window pane picture box separates each pane into a stand-alone picture box, with each box containing the full, placed image (E).

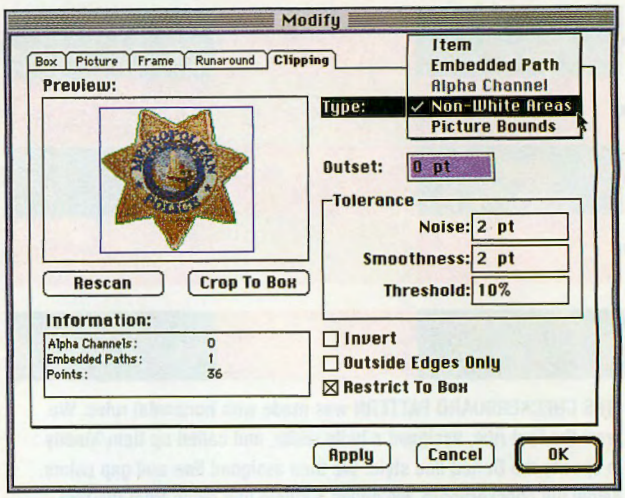
MERGE MANIA

We converted this *f* (option-f) character to a picture box via the Text to Box feature. The shape, colored with a blend and frame specified, was duplicated five times, and each duplicate was rotated 30 degrees. The other six images show the results of applying various Merge commands to the six-piece graphic. Exclusive Or and Combine look the same, but Exclusive Or places two Bézier points wherever two lines cross in the original, unmerged shaped. Combine ads no extra points at crossover locations.



anyone who has ever wanted to have a real, non-bitmapped coupon frame or for those who have wished to create their own striped or dashed rules and frames. Also, when specifying a frame, you now can specify a color for the *gap* (the white or transparent portions between frame lines or dash segments) as well as for the solid part of the frame or rule style.

Resizing grouped items no longer requires the aid of a QuarkXTension. Commercial, third-party QuarkXTensions give a great deal more control, especially over the resizing of item contents, but this new feature will be a big boon to many users. Hopefully, Quark will add better content resizing control in a future version.



QUARKXPRESS' NEW CLIPPING PATH ability can form clipping paths from alpha channels saved with an image or simply based on all non-white areas of an image. A little experimentation may be necessary to get settings right for each image, but you always can manually adjust the path after it is created, moving, adding, and deleting points as you see fit.

The company also enhanced Color features by adding support for Apple's ColorSync, high-fidelity Hexachrome color, and the ability to create multi-ink colors. The last item is something that longtime designers used to do regularly in the ages B.C. (before computers). Overprint two or more spot colors, and you create the illusion of printing with more colors (a trick for tight print budgets and a fun, creative challenge). Yes, there are workarounds for achieving the effect without version 4.0's multi-ink ability, but they're not WYSIWYG and hardly could be classified as fun.

Lists and Index features now are part of QuarkXPress. The Lists feature allows compiling lists of text tagged with a specific style sheet, handy for (among other things) creating a table of contents. The Index feature, while welcome, is weak; we hope to see improvement in later program versions. It requires more manual work than more-powerful, third-party indexing QuarkXTensions.

QuarkXPress 4.0 takes page layout software a step forward. The creative folk in the crowd definitely will benefit from its new graphics-related features. They'll see much less interruption in their workflow and will make fewer trips to assorted graphics programs just to create a basic type effect or to silhouette a photo. A handful of new features are not yet what they should be, and some of the program's default settings remain less than intuitive, but even the clunky features show promise, and you can always set your own defaults. The program is stable—we experienced no quits, bombs, or freezes (remarkable, considering all the new features and for the program being a ".0" version). We saw the occasional, minor screen redraw glitch, but we easily remedied it by pressing Command-Option-. (period), to force redraw, which is another new feature, or by toggling Guides on and off via the F7 key. Version 4.0 was worth the wait. —*Elyse Chapman*

GOOD NEWS: New Bézier tools, text paths, and merging and clipping path features cut down on side trips into other programs. Streamlined interface with tabbed dialog boxes. Familiar keyboard shortcuts still work. Book feature maintains consistency in multi-document projects. Character style sheets.

BAD NEWS: Index feature requires more manual work than third-party QuarkXTensions. Some program defaults still goofy, especially H&J settings.

SAVE $70!!!
Aladdin FlashBack™ is on Your MacAddict CD
TRY IT FREE FOR 15 DAYS
Then get it for just $29.95

Now, recover things even Norton can't

Introducing Aladdin FlashBack™

FlashBack your work and you're protected.

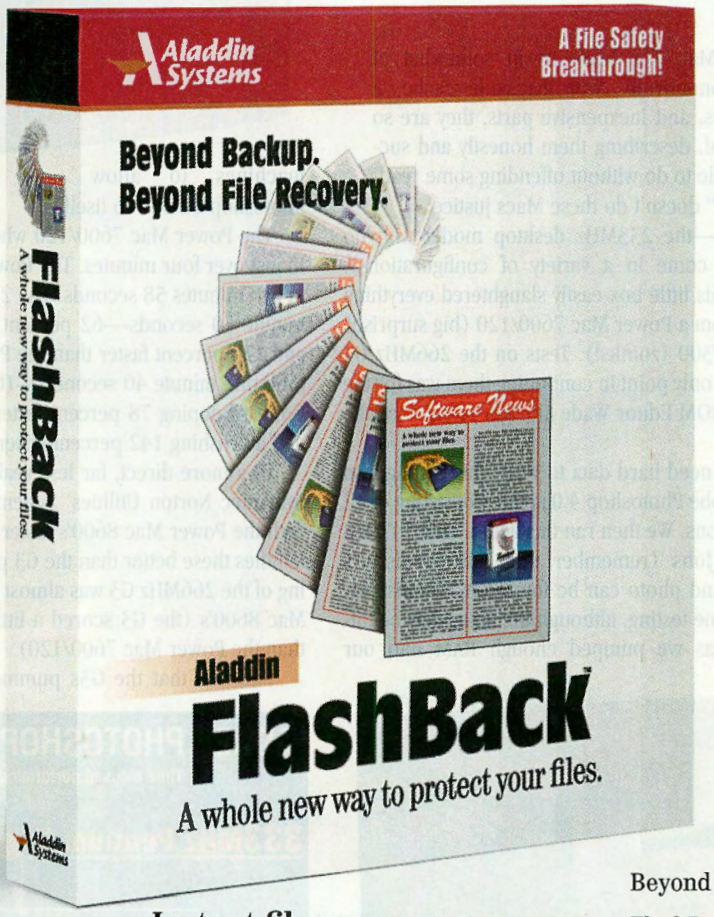
Protected against loss by accidental deletion, file corruption, *even from hitting the save key and over writing your file.* Aladdin FlashBack is a whole new way to protect your files.

With FlashBack you can recover not only lost or damaged files, but even previous versions of files that you changed, even if you made the changes months ago.

Unlimited undos

Discover the power—and time savings—of unlimited undos. FlashBack tracks changes made to a file every time you hit Save. Recover from changes even after you've quit your application, turned your computer off and gone home. If you ever saved a FlashBacked file, you can recover it exactly as it was at that time.

Works on any file If your application saves files, FlashBack will protect you. From word processors to graphics programs, from databases to spreadsheets, from HTML to C++.



Instant file recovery Restore any file you've protected just by double clicking. No confusing procedures, no complex operations. It doesn't get any faster or easier.

Plus, FlashBack works with both local and networked files.

Save Disk Space

Keep multiple versions of your important files without gobbling up disk space. FlashBack makes only one complete copy of your file. Previous versions are tracked through tiny "diff" files containing only the changes, or differences, between one version and the next. The result? You can save five, ten, twenty or more versions of a file in less room than you would use hitting 'Save as' just a couple of times!

Time & Date Stamping FlashBack time and date stamps each version it saves, making it the organized alternative to cluttering up your folders with cryptically named 'Save as' files!

It's a new level of protection. Beyond backup; beyond file recovery.

FlashBack gives you a whole new way to protect your files and save your sanity.

Aladdin Systems

(800) 732-8881 www.aladdinsys.com

©1997 Aladdin Systems Inc. All trademarks are property of their respective owners.

reviews

Power Macintosh G3s

COMPANY: Apple
CONTACT: 800-538-9696 or 408-996-1010, http://www.apple.com

233MHz Power Macintosh G3 desktop
PRICE: $1,999 (SRP)
SPECIFICATIONS: 233MHz G3 (PowerPC 750), Mac OS 8, 32MB of RAM (193MB max), 512K Level 2 backside cache, 66MHz system bus, 4GB hard drive, 24X CD-ROM drive, Ethernet, 2MB SGRAM (6MB max), ATI 3D RAGE II+ accelerator, three PCI expansion bays

266MHz Power Macintosh G3 minitower
PRICE: $3,024 (SRP)
SPECIFICATIONS: 266MHz G3 (PowerPC 750), Mac OS 8, 32MB of RAM (385MB max), 512K Level 2 backside cache, 66MHz system bus, 4GB hard drive, 24X CD-ROM drive, Ethernet, AV personality card with 24-bit video I/O, 2MB SGRAM (6MB max), ATI 3D RAGE II+ accelerator, three PCI expansion bays

SEE HOW YOUR MAC compares with the G3s using the Adobe Photoshop 4.0 action and a photo of Steve Jobs provided on The Disc.

THE REAL ADVANTAGE of the new, squat minitower Power Mac G3 is its AV personality.

Apple's new Power Mac G3s leave us in somewhat of a terminological conundrum. With backside cache, a jacked-up system bus, and inexpensive parts, they are so fast, so cheap, and so cool, describing them honestly and succinctly is literally impossible to do without offending some readers. To say they kick "butt" doesn't do these Macs justice.

Take the meekest G3—the 233MHz desktop model with no additions (the machines come in a variety of configurations). Coming in at two grand, this little box easily slaughtered everything in the *MacAddict* office from a Power Mac 7600/120 (big surprise) up to a Power Mac 8600/300 (zoinks!). Tests on the 266MHz G3 were such a massacre, the only point in continuing them was for the sheer sadistic delight CD-ROM Editor Wade Albright seemed to take in the whole affair.

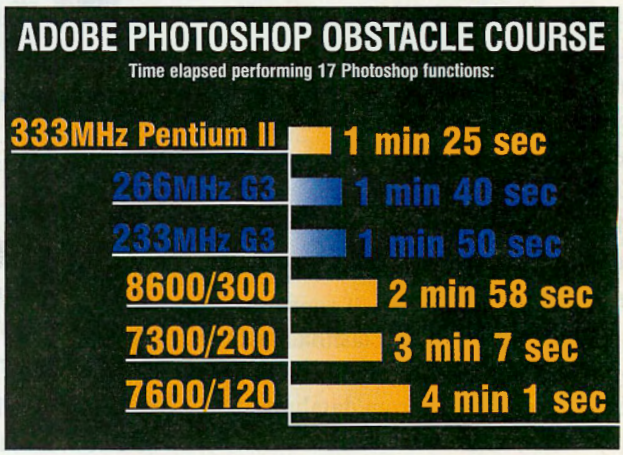
We know some of you need hard data to verify this carnage, so here it is: We wrote an Adobe Photoshop 4.0 action consisting of 17 different Photoshop functions. We then ran this action on a 14.7MB Photoshop file of Steve Jobs (remember our February issue's cover?). Both the action and photo can be found on The Disc for further inspection and home testing, although the latter may be difficult for many of you, as we pumped enough RAM into our machines to allow Photoshop 128MB to itself.

The Power Mac 7600/120 wheezed its way through our course in just over four minutes. The Power Mac 8600/300 zipped through in two minutes 58 seconds. The 233MHz G3 finished in a mere one minute 50 seconds—62 percent faster than the Power Mac 8600 and 120 percent faster than the Power Mac 7600. The 266MHz G3 took one minute 40 seconds—10 percent faster than the 233MHz G3, a whooping 78 percent faster than the Power Mac 8600/300, and a crushing 142 percent faster than the Power Mac 7600/120.

In a more direct, far less real-world examination, we also had Symantec Norton Utilities' System Info clock each machine. Even with the Power Mac 8600's faster FPU computations (the 604e still handles these better than the G3 processor), the overall system rating of the 266MHz G3 was almost 30 percent higher than the Power Mac 8600's (the G3 scored a little more than 165 percent higher than the Power Mac 7600/120).

Satisfied that the G3s pummel any other Mac system in our

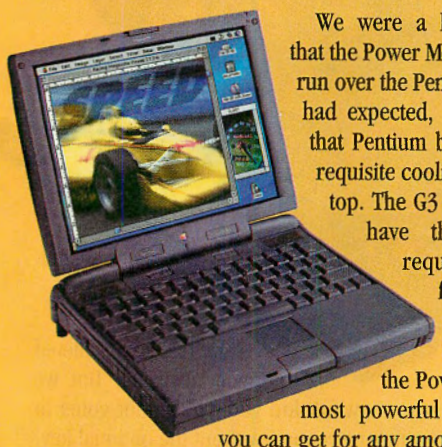
CHOOSE EITHER 233 OR 266MHz of G3 power in Apple's popular outrigger case design.



Power for the Road

PowerBook G3

COMPANY: Apple
CONTACT: 800-538-9696 or 408-996-1010, http://www.apple.com
PRICE: $5,699 (SRP)
SPECIFICATIONS: 250MHz G3 (PowerPC 750), Mac OS 8, 32MB of RAM (160MB max), 12.1-inch active-matrix color SVGA display, 512K Level 2 backside cache, 50MHz system bus, 5GB hard disk drive, 20X CD-ROM drive, Ethernet, 2MB of VRAM, two PC card slots (one with Zoomed Video support for video input), built-in 33.6Kbps modem



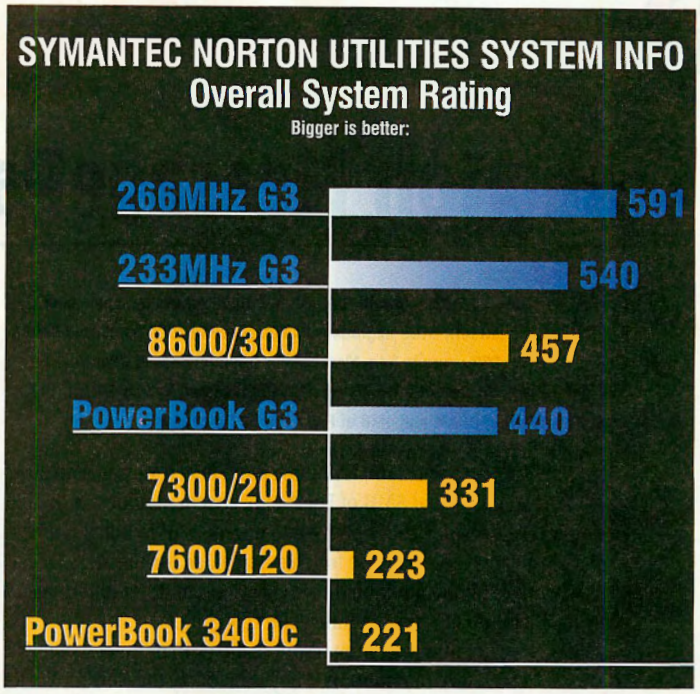
We were a little disappointed that the Power Mac G3s didn't quite run over the Pentium II the way we had expected, but try cramming that Pentium beast and its three requisite cooling fans into a laptop. The G3 processor doesn't have this problem. It requires no cooling fans, draws little current, and is tiny. Be assured, the PowerBook G3 is the most powerful carry-along CPU you can get for any amount of money.

With this new PowerBook, the days of portable Macs being innately inferior to desktops is over. Playing with the G3 laptop proves it every bit as fast as current desktop models. Lack of RAM prevented us from running the same Adobe Photoshop action we used to test the desktop machines, but Symantec Norton Utilities' System Info rated the overall system to be within 20 percent of the Power Mac G3s and 3 percent of the Power Mac 8600/300. The PowerBook G3 scored low in System Info's video test (the three other machines contain graphics accelerators), but in processor only, the G3 laptop ranked above the 233MHz G3 desktop and slightly below the 266MHz G3 minitower. The PowerBook G3 score was twice that of its twin (in appearance) and closest laptop competitor, the PowerBook 3400c.

Fortunately, unlike the Power Mac G3 desktop models, the PowerBook uses similar EDO RAM as its PowerBook 3400c predecessor—similar meaning the same type of RAM with a slightly different configuration. Smaller, PowerBook 3400c memory modules (less than 64MB) should work with the PowerBook G3; however, larger, PowerBook 3400 modules (64MB and up) may not.

The PowerBook G3 has all the amenities you'd expect from a top-of-the-line Mac portable. These include speakers, a built-in 33.6Kbps modem, two PC card slots (one supporting Zoomed Video), swappable floppy and CD-ROM drives, a 47-lithium ion battery good for two to four hours, and 2MB of VRAM yielding millions of colors on an external monitor (the SVGA display can show only thousands of colors at a fixed 800 x 600 pixels). That's right, with this VRAM and the PowerBook's potent processor, you can literally do high-end graphics work on a laptop. Or, as certain *MacAddict* staffers discovered, you can play Myth anywhere. —*RC*

GOOD NEWS: Portable Myth. As fast as any desktop machine. Fastest laptop on earth.
BAD NEWS: Expensive.



in-house tests, we turned to a much more insidious competitor—an NEC Direction SPL PC running Windows 95 and sporting a massive 333MHz Pentium II processor, currently the fastest Pentium out there. Just looking at a Pentium II is slightly daunting (the NEC Direction SPL requires three fans to cool it). Running the same tests with 128MB of RAM, the NEC beat the 266MHz G3 by 18 percent, finishing the Photoshop action in one minute 25 seconds. This isn't bad, considering the Pentium's 67MHz advantage, but not quite the G3 superiority Apple has boasted. The G3 will rise rapidly in megahertz, so expect to see the Pentium II beast's defeat in the near future.

These G3s sport an all-new architecture. There's a new processor, a new logic board, and something called a personality card for audio (and, in the minitower, video) input. As expected, the G3s are still a little buggy. We had to download an updated Ethernet driver (provided on The Disc) in order to access our network, and many other compatibility problems have been reported (a list can be found at http://www.macintouch.com/g3.html). These problems should be resolved quickly.

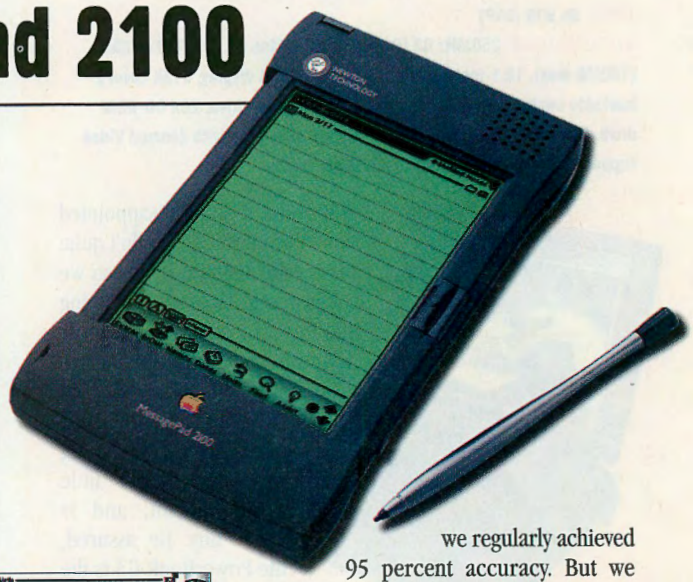
An annoyance that isn't going away, however, is the fact that Apple couldn't stop thinking different when it came time to decide on RAM. Old DIMMs don't work in the new G3s. Instead, they use SDRAM, which is common to PCs. This RAM is cheaper than comparably sized DIMMs, but users who already have significant stockpiles of the old-style RAM are out of luck.

Despite these gripes, there is little question that the G3s are the computer to buy. The bugs seem few, and they start $1,000 cheaper than the much slower Power Macintosh 8600/300. Getting one simply requires a visit to Apple's Web site (http://www.apple.com). Pick up either the popular outrigger desktop case or the new squatty minitower with the AV personality card. Configure it with either the 266MHz or 233MHz G3 processors, add a built-in Zip drive or modem, a socket full of RAM, and you may as well get a monitor, too. No matter what, it's a great deal. —*Robert Capps*

GOOD NEWS: Fastest Macs ever. Great price.
BAD NEWS: Some conflicts with current software. Don't crush the Pentium II, as we had hoped. Require a new style of RAM.

reviews

Newton MessagePad 2100



COMPANY: Apple
CONTACT: 800-909-0260 or 408-996-1010, http://www.newton.apple.com
PRICE: $999 (street); $199 upgrade from MessagePad 2000 purchased before Nov. 7, 1997; $99 upgrade from MessagePad 2000 purchased after Nov. 7
SPECIFICATIONS: 162MHz StrongArm SA-110 processor, Newton OS 2.1, 8MB of RAM (4MB of DRAM and 4MB of Flash RAM), 1.4 pounds

Apple's MessagePad 2100 is nothing more than a MessagePad 2000 with an additional 3MB of DRAM for system memory (a total of 4MB rather than 1MB) plus some upgrades of bundled applications, all of which are available for free download for the MessagePad 2000. If you think the additional memory is too minor a difference to warrant the bump in model number, you're wrong.

Before we get into that, a bit about features that the MessagePad 2000 and 2100 have in common. They both carry the NewtonWorks application, a great word processor and spreadsheet. The contacts and day-planner applications native to each are smooth and well integrated. The notepads record voice notes with a built-in microphone. And the grayscale, backlit, 320-x-480-pixel screen is a delight. Both Newtons run for about two weeks on four AA batteries (unless you use a PC Card modem, in which case, you'll get probably an hour or two of continuous use).

The 2000 and 2100 are about 10 times faster than earlier MessagePads, and they offer greatly improved handwriting recognition—so much so, we regularly achieved 95 percent accuracy. But we won't kid you, you're not going to write long reports without the optional keyboard ($90).

TRY BROWSING THE WEB on your PalmPilot! The NetHopper Web browser comes bundled with the MessagePad.

The MessagePads excel at communication. A MessagePad plus an optional PC Card modem is a terrific tool for Internet work. The 2000 and 2100 come bundled with the Newton Internet Enabler (version 2.0 on the 2100), the email client EnRoute i-net (version 1.4.2 on the 2100), and a functional Web browser from AllPen called NetHopper (version 3.2 on the 2100). Add a third-party newsreader, and you can keep up with Usenet newsgroups.

Now, for where the 2100 outshines the old 2000. As powerful as it was, the 2000 simply ran out of gas when browsing the Web or even when trying to run several applications at once. Both machines have 4MB of user memory (Flash RAM), but the 2000, like earlier MessagePads, would slowly eat up what's called "heap" memory—a type of system memory unique to the Newton OS—which slowed the machine to a crawl, then forced a restart. Sometimes all you could manage was a few minutes of browsing.

The 2100's extra 3MB of internal memory means about triple the amount of heap, which translates into a far more useful MessagePad. The thing almost never runs out of steam. We browsed the Web with NetHopper, ran a simultaneous email session with EnRoute i-net, and copied some text to the notepad, never coming close to using all the memory.

This is a powerful hand-held computer, but it's still far from a pocket computer. With a pair of PC Cards, the thing weighs a pound and a half and would fit only in Capt. Kangaroo's pocket. And at about $1,000, it's nearly twice the price of its most expensive competitors. Finally, in a silly cost-saving measure, Apple left out the essential serial adapter ($20)—without which it's almost impossible to perform a backup or to install software—and an AC adapter ($30). —*Joseph O. Holmes*

GOOD NEWS: Browses the Web effectively. Serious computing power. Sharp 16-grays screen. Good handwriting recognition.
BAD NEWS: Still too expensive. Still too heavy.

5 Top Newton Accessories

These five cream-of-the-crop MessagePad add-ons each rate a Freakin' Awesome:

THE WRITESTUFF adds real word processing tools.

1. The WriteStuff (Landware, $40) turns the NewtonWorks word processor into a really useful application, adding style sheets, word count, nine attractive typefaces, handwriting recognition, and lots more.

2. The Hand Stand Newton case (PDA Concepts, $90) opens to arrange a MessagePad and keyboard like a little laptop—great for the plane or train.

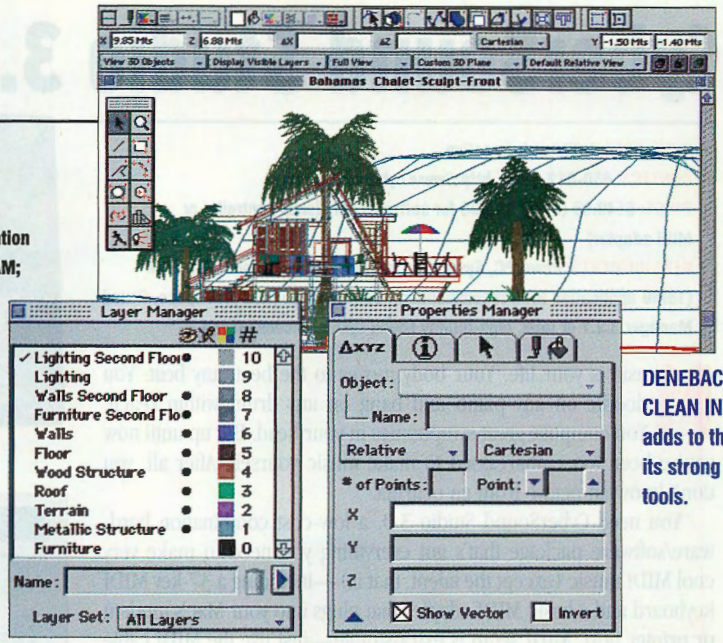
3. Ink Spot (DejaVu Software, $15) is a smart, inexpensive, and powerful Usenet newsgroup reader, with almost as many features as its Mac counterparts.

4. WebXpress (PenTekk Software Technologies, $35), in conjunction with the NetHopper browser, lets you download pages unattended to read offline. That's right, now you can catch up on MacInTouch (http://www.macintouch.com) while you ride the subway.

5. HyperNewt (Foundation Systems, $50) replaces your notepad, adding real hierarchical folders and aliases to better organize all your lists and data.

DenebaCAD

DEVELOPER: Deneba Systems
CONTACT: 800-622-6827 or 305-596-5644, http://www.deneba.com
PRICE: $799.95 (SRP)
REQUIREMENTS: 68040 or faster, System 7.5 or later, 16MB of application RAM (recommended: 604e-based Power Mac; 32MB of application RAM; large-screen or multiple monitors)



DENEBACAD'S CLEAN INTERFACE adds to the appeal of its strong drafting tools.

Brand-new, full fledged, computer-aided design (CAD) applications for the Mac don't come down the pike every day, despite the Mac's obvious superiority as a design tool. (Well, obvious to everyone but the legions of bent-backed drafting serfs and their whip-cracking managers laboring in DOS-based, AutoCAD-only shops.) So Deneba, whose Canvas illustration program has always sported the most CAD-like precision of the major drawing apps, deserves a gold-plated pocket protector for daring to release DenebaCAD, a 2D/3D CAD package aimed mainly at architects and interior/exterior designers.

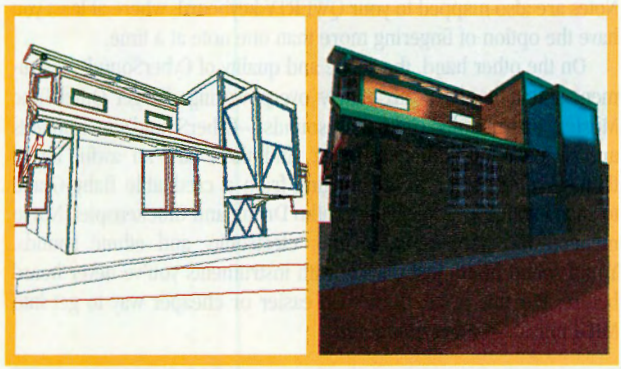
Not that there aren't other excellent drafting programs out there for the Mac. DenebaCAD's chief competition, Diehl Graphsoft's market-leading MiniCAD 7, also lists for $795, and it is a mature, polished product with a deep feature set. But DenebaCAD has its strengths too: It offers a wide range of tightly integrated built-in capabilities, including simple 2D drafting, complex 3D modeling, and materials tracking and cost-analysis, within a smooth interface that technically oriented designers will master easily.

The program's single best feature is the well-thought-out 3D Render module. It produces close-to-photorealistic renderings, flythrough QuickTime animations, QuickTime VRs, and anaglyphic stereo images. If you've struggled with the clunky, ugly 3D in most other low-to-mid-range CAD programs, you'll appreciate the ease with which DenebaCAD produces quite handsome images, complete with textures, natural and artificial lighting, shadows, reflections, and transparency. Rendering is reasonably fast, especially if you've got a 604e-based Mac.

DenebaCAD's Draft mode creates 2D orthographic drawings, the heart of all CAD work. Draft sports the full complement of line- and spline-drawing tools, with fileting, chamfering, extensions, auto-dimensioning, and a wide range of snap-to-grid options. The SmartMouse, similar to drawing wizards in other mid-to-high-end CAD programs, identifies relevant snaps, intersections, tangents, and parallels as you draw. Unlimited drawing layers are easily managed using the Layer Manager floater. Dimensioning in ANSI, DIN, ISO, JIS, and BS-380 is floating-point precise to 16 places. Tool and info bars give the tech stats needed to execute precise work. A single drawing can be viewed in as many open windows as you like, each showing a different angle, perspective, or magnification. You can output drawings as parametric text for import into a spreadsheet, database, or word processor, where specifications can be edited. Edited files can be imported and turned into drawings.

Use the 3D Sculpt mode to extrude 2D drawings into 3D, or work directly with polygonal 3D tools to build models from scratch. You can extrude lines along any free angle to make planes, or use sweep and spin operations to make complex shapes such as spiral staircases. Smart Boolean operations allow you to create new models by combining models or subtracting them from each other. The program remembers the original shapes of models, even after they are combined, so you can recall and reshape them at any time. The best part of DenebaCAD is that it doesn't make you jump through hoops to move up or down a dimension—it's relatively easy to generate 3D extrusions from 2D plans, or derive 2D working drawings from 3D models.

DenebaCAD is a powerful CAD program, but it's not perfect. Some fit and finish work remains. When you try to open 3D models, you're asked to find oddly misspelled textures that aren't anywhere in the package. Models can't always find associated textures even if they are in a nested folder. Projects sometimes open to a blank screen, forcing you to change the view to see your drawing. And the program lacks several of the high-end capabilities of MiniCAD, such as true solids modeling—a necessity for mechanical and product design. For now, MiniCAD is still the best mid-range choice for all-around CAD on the Mac. But for architectural design studios, DenebaCAD is a strong contender. —*Steven Anzovin*



RENDER MODE GENERATES QUICK hidden-line wireframe drawings...

...OR FULL-COLOR 3D ART with accurate textures, lighting, and shadows.

GOOD NEWS: Strong architectural 3D modeling and rendering. Solid interface. Rich toolset. Price is right.
BAD NEWS: No solids modeling. Needs a bug-fix revision.

reviews

CyberSound Studio 3.0

DEVELOPER: InVision Interactive
CONTACT: 650-812-7380, http://www.cybersound.com
PRICE: $149.95 (SRP); $79.95 for software only (sans controller or MIDI adapter)
REQUIREMENTS: PowerPC, System 7.1 or later, 8MB of application RAM (16MB application RAM recommended), 55MB of free hard disk space, Sound Manager 3.2.1 or later, high-quality sound system recommended

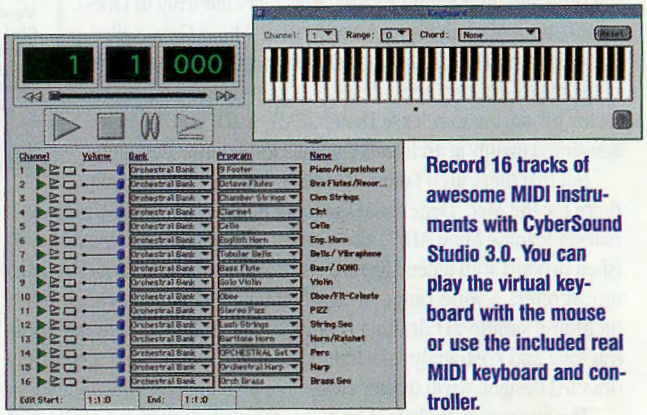
Music is your life. Your body moves to the beat, any beat. You doodle on any piano and bang on any drum within reach. You compose great symphonies in your head. But up until now you've been too embarrassed to make music yourself. After all, you don't know an octave from an ocarina.

You need CyberSound Studio 3.0, a low-cost combination hardware/software package that's got everything you need to make very cool MIDI music (except the talent, that is)—including a 37-key MIDI keyboard and a basic MIDI adapter that plugs into your Mac's modem or printer port. MIDI setup is extra-simple—just use the MIDI cable to plug the keyboard into the MIDI box's IN jack, plug the serial cable into you Mac, and launch the CyberSound Studio software.

The CyberSound Studio main window displays a time counter at top, tape-style record and playback controls, and 16 MIDI tracks to record and layer keyboard noodlings. Each track has its own MIDI instrument sound, selected from one of the included instrument banks.

To record a take, select a track, specify the bank and instrument for that track, then click record and start playing. Record additional tracks while listening to what you've already played. Even if you're musically challenged, it's not that hard to come up with something listenable, especially if you dive into CyberSound's ready-made drum grooves and automatic chording.

The level of editing control, however, is minimal. CyberSound Studio claims to be like a word processor for music, but the analogy isn't entirely apt: you can record right over a take or alter tracks by cutting and pasting (just as you can cut and paste paragraphs in a text document), but you can't edit individual notes on screen. That's like not being able to use your word processor to change a word or letter. The sequencer also lacks a timeline, making it hard to see and adjust how tracks interrelate over time. If you graduate to serious composing, you'll want something stronger—Macromedia's Deck II, or Steinberg North America's CuBase, —providing finer control and a visual editing display.



Record 16 tracks of awesome MIDI instruments with CyberSound Studio 3.0. You can play the virtual keyboard with the mouse or use the included real MIDI keyboard and controller.

The included hardware is underpowered, as well. The keyboard isn't touch sensitive and has no audio out or MIDI in. It's OK for fooling around, but it's no pro tool; chances are you'll quickly want a better MIDI keyboard. Also note that the MIDI controller lacks a pass-through or a switch for another serial device, so you'll have to unplug your modem or AppleTalk connection before you can use the keyboard. If you don't have a real keyboard or other MIDI instrument handy (CyberSound Studio is available without the hardware), there's an onscreen 88-key virtual keyboard you can play with the mouse. Notes are also mapped to your QWERTY keyboard, where at least you have the option of fingering more than one note at a time.

On the other hand, the scope and quality of CyberSound's instrument sound banks is absolutely overpowering. Forget QuickTime Musical Instruments' rinky-dink sounds—CyberSound's instruments are serious, full-bodied samples. And there are an awful lot of them—1,238, to be exact, ranging from a creditable Baby Grand to such exotica as Ebony Flute, Taiko Drum, and Glockenspiel. Not to mention the percussion, techno, electronic, and ethnic sounds. You'll spend hours just playing with instruments you've never heard before. For this price, there's no easier or cheaper way to get into MIDI music. —*Steven Anzovin*

Sounds of MIDI

If the 1,238 instruments included with CyberSound don't satisfy your hunger for cool new noises, check out CyberSound's additional sound library volumes.These volumes can be purchased for $39.95 each.

VOLUME 1: Pop, Piano, the World, and Beyond, contains 279 instrument sounds grouped in four banks—
- **79** hot pop/rock sounds,
- **105** piano textures,
- **69** world beat instruments, and
- **29** rare analog, digital, and physically modeled sounds.

VOLUME 2: Electronica, rounds up six banks of vintage and new electro instruments:
- **13** pads of layers and chords,
- **26** break beats and loops,
- **35** analog synth bass and lead sounds,
- **7** techno drum kits,
- **4** techno loops, and
- **5** live drum grooves.

GOOD NEWS: Incredible sound library. Price is right.
BAD NEWS: Lacks visual editing features. Underpowered hardware.

GO2NET SM PlaySite is a property of go2net, Inc.

Who's talking about PlaySite?

Yahoo! Internet Life, The Web Magazine, PC Games, Game Revolution, CNBC, WebCrawler, CNET, P.O.V., and Family PC all agree: when it comes to multiplayer games and chat, PlaySite is the place to be.

chess, backgammon, reversi, checkers, chat, and more!

www.playsite.com

PLAYSITE SM

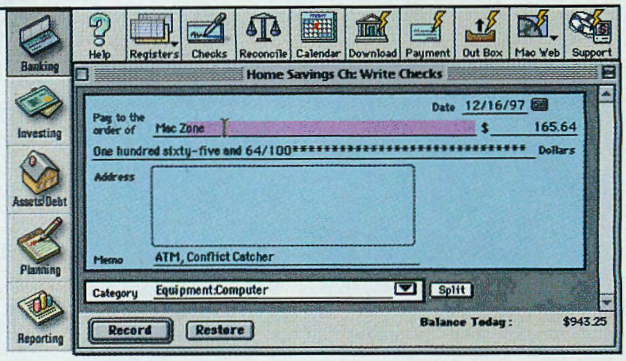
people playing → people

copyright 1997 go2net, Inc.

reviews

Quicken Deluxe '98

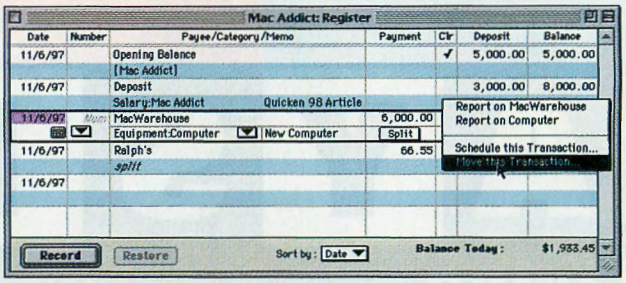
COMPANY: Intuit
CONTACT: 800-4-INTUIT or 650-944-6000, http://www.quicken.com
PRICE: $59.95 (street), $20 rebate for those who upgrade
REQUIREMENTS: 68030 or faster, System 7.1 or later, 12MB of RAM for System 7.x or 16MB of RAM for Mac OS 8, CD-ROM drive, 14.4Kbps or faster modem to access online features



WITH THE HELP OF THE QUICK FILL FUNCTIONS, Quicken Deluxe '98 makes it perhaps too easy to pay your bills.

Quicken Deluxe '98—the name harks back to the old *Match Game* quiz show. *Match Game '72*, *Match Game '73*—each year promised bigger stars and more risqué questions. But Fannie Flagg wasn't much of an improvement over Charles Nelson Reilly. With Quicken 7 fulfilling most financial needs, we assumed this new version would be, at best, the equivalent of Richard Dawson returning to *Match Game '76* while on hiatus from *Family Feud*. We couldn't imagine what major improvements Intuit could offer to justify yet another upgrade.

Truthfully, those who already own a copy of Quicken 7 can probably survive without upgrading. But Quicken Deluxe '98 adds enough great new features to make purchasing this version well worth the small price.



WRONG REGISTER? THE SHORTCUTS pop-up menu lets you move a given transaction to a different register without having to delete it from the original one.

The most obvious improvements occur within Quicken's registers—the program's onscreen rendition of a checkbook. The Shortcuts function was tucked away so obscurely in version 7 that it was generally ignored. The Deluxe '98 package puts Shortcuts in a pop-up menu within the register. By clicking on Shortcuts, you can schedule a transaction, make a report on a particular payee or transaction, or move a transaction from one register to another without performing the extra steps of deleting and then reentering the information.

A miniregister application known as Quick Entry also is new in Quicken Deluxe '98. With Quick Entry, you can enter the day's transactions using a fraction of the RAM required by the main program. Quick Entry saves the entries until you open Quicken, then transfers them. Because it's easy to use, Quick Entry encourages you to input credit card and ATM slips as you accumulate them during the day (before you lose them).

Another new feature, Smart Reconcile, enables Quicken to determine whether a given account is balanced. On occasions when you discover your checkbook isn't in sync with your bank statement, Quicken Deluxe '98 points out immediately which transactions have or have not been checked off, saving (sometimes) hours of frustration.

Quicken Deluxe '98 also caters to more varied financial needs. You can determine the yearly depreciation on your Power Mac or form a viable retirement plan. Quicken's online capabilities will help you find the best mutual fund for your money, the best deals on home loans, and up-to-date information about your stock portfolio. Quicken's Tax Deduction Finder, located in the Planning Environment, not only finds missed tax deductions within your accounts, but it also scouts out deductions throughout each calendar year. In combination with Quicken's online Tax Center (http://www.quicken.com/taxcenter), the Tax Deduction Finder can squeeze a lot of money out of your tax bill.

Quicken isn't perfect. Online banking still is a laborious process, in which you have to write the bank for an application and wait several days before accessing those capabilities, many of which still suffer from technological glitches. Because Quicken uses a more advanced version of West Code's One Click technology, it isn't compatible with the consumer version of One Click—a major bummer for many users. Finally, Intuit shortchanged us by not offering a Macintosh version of Quicken Home and Business, which gives Windows users the opportunity to keep accounts and make invoices for small businesses.

We're optimistic, however, that Quicken Deluxe '99 will tend to these issues and offer even more features to keep Quicken the number one host of computerized finance. —*Robyn Weisman*

Quick Hits

Some of Quicken Deluxe 98's shortcut keys are obvious (such as Command-A for Accounts), but others aren't. Here's a handy list for your reference and/or memorization:

Command-E: Split Transaction
Command-H: Investment Portfolio
Command-J: Write Checks
Command-K: Classes
Command-L: Categories & Transfers
Command-T: Quickfill Transactions

GOOD NEWS: Great new Quick Entry and Smart Reconcile features. Underutilized Shortcuts feature is more visible and easier to use.
BAD NEWS: Online banking still tedious. If you use this program, you'll have no excuse for sloppy finances.

PAX IMPERIA
EMINENT DOMAIN™
NOW AVAILABLE FOR MACINTOSH
The largest, most sophisticated game universe ever created is at your control.
THQ INC
HELIOTROPE STUDIOS
WWW.PAXIMPERIA.COM
Designed for Microsoft Windows 95
Mac OS

reviews

Ray Dream 3D

COMPANY: MetaCreations
CONTACT: 800-297-2665 or 805-566-6220, http://www.metacreations.com
PRICE: $149 (SRP)
REQUIREMENTS: PowerPC, System 7.0 or later, 20MB of application RAM (24MB or more recom.), Color Display (24-bit recom.), CD-ROM drive

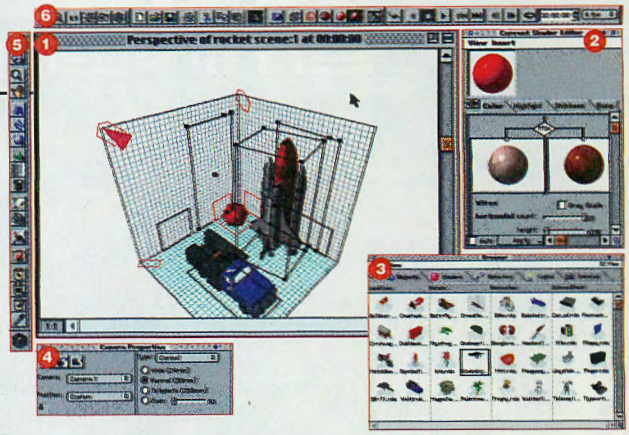
FIND DEMOS of Ray Dream 3D and Ray Dream Studio on The Disc.

Ray Dream 3D is a subset of MetaCreation's full Ray Dream Studio, designed for the 3D beginner. This program holds your hand through the initial learning of 3D and offers a fair amount of power once you are up and running.

Anyone intimidated by 3D will be grateful for MetaCreations' efforts to make this program easy to learn. The manual is clear (although it was derived from the Ray Dream Studio manual and mentions features that aren't in Ray Dream 3D). The online help system is great, making use of AppleGuide, Balloon Help, and even Stickies (you can add notes to the help files). And neophytes get loads of premade 3D materials.

A new Ray Dream 3D project starts either with an empty scene or in a Scene Wizard. Scene Wizards walk you through premade backgrounds for 3D images and animation, and automatically place lights, cameras, backdrops, and props in a scene. Once a scene exists, other premade materials from the program's Browser libraries—including objects, textures, image maps, cameras, and lights—can be added. There even are drag-and-drop behaviors for creating basic animation.

Although some users may take advantage of the premade models or the modeling wizard to step through basic modeling, Ray Dream also provides a formidable spline-based modeling environment, which is very similar to the workshop in MetaCreations Infini-D. Both programs create models by extruding cross sections along a path, which can be adjusted in 3D space. Though Infini-D separates this process into different windows for the path, cross sections, and resulting object, Ray Dream integrates them into a single window, giving a much better sense of the way the 3D path and 2D cross sections interrelate. Ray Dream 3D, however, lacks a mesh modeler found in both Ray Dream Studio and Infini-D.



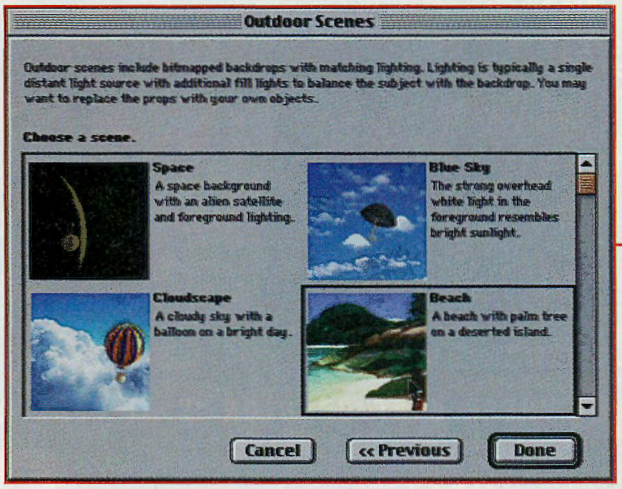
1. THE PERSPECTIVE WINDOW shows a scene at high preview quality.
2. THE SHADER EDITOR offers surface controls for manipulating and combining surfaces.
3. THE BROWSER WINDOW displays a library of precreated materials. The shader library is selected here.
4. CAMERA PROPERTIES shows the settings for the current camera.
5. THE VERTICAL TOOLBAR shows controls for creating and manipulating objects in a scene and for making the *x*, *y*, and *z* planes visible.
6. THE HORIZONTAL TOOLBAR includes controls for zooming, rendering, shading, and navigating through an animation, as well as standard Mac operations such as cut, copy, and paste.

Ray Dream uses shaders to add textures to objects. A shader can include color, highlight, shininess, transparency, reflection, glow, and bump information. It also can include texture maps from bitmapped images and QuickTime movies. Multiple shaders can be layered on an object with varying degrees of transparency. One great tool in Ray Dream 3D is the 3D brush offering a MetaCreations Painter style brush for applying one shader over another. This allows mixed surfaces, which would be nearly impossible to achieve in other programs.

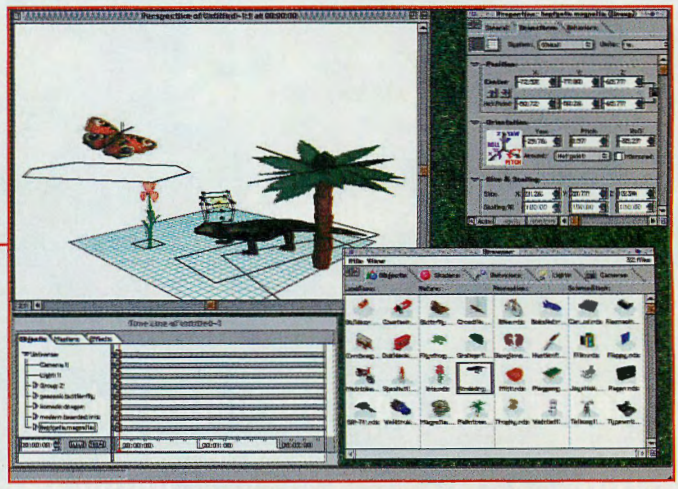
For an entry-level program, Ray Dream 3D sports a number of surprising features. Among them: up to 64 levels of undo; the ability

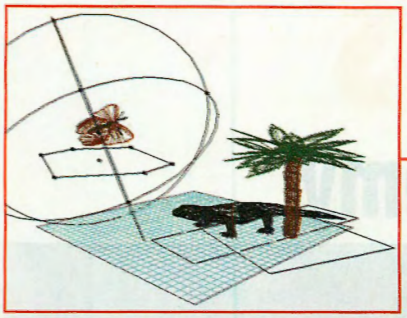
QUICK AND DIRTY ISLE

STEP 1: A Scene Wizard lets you begin a 3D project with precreated backgrounds, lights, cameras, and objects.



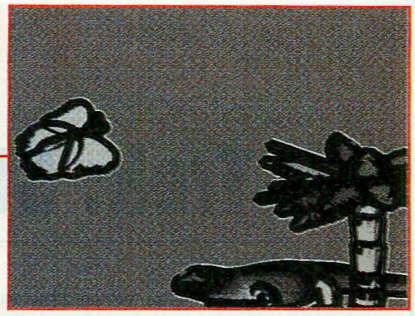
STEP 2: A butterfly, a lizard, and a few flowers are dragged and dropped into the island scene from the Object Browser.





STEP 3: The island scene as it appears in wire-frame mode.

STEP 4: The island scene rendered at high quality with Ray Dream's renderer.



STEP 5: The island scene rendered with the ThinkFish Natural Media Renderer.

to export VRML for putting 3D on the Internet; pointable and trackable cameras, lights, and objects; and controls for linking and grouping multiple objects. There is also a spherical camera for creating 3D virtual-reality environments.

Ray Dream supports QuickDraw 3D for fast previewing and offers four rendering modes for final output. Use Draft Z-buffer, the quickest renderer, for test renders before moving to the slow, high-quality, Raytracing renderer. The Adaptive Renderer uses Raytracing when it's needed and switches to a faster A-buffer renderer for the rest. The last renderer, the Natural Media Renderer (licensed from ThinkFish Productions) renders 3D animations in a variety of artistic styles that look more like hand-drawn animation than photorealistic 3D.

One of the few complaints we have about the program is that some extensions built into the interface are not available until purchased separately. When you attempt to access them, you are prompted to type in a serial number and given a phone number for purchasing the extension. This type of sales pitch inside an application is annoying; hopefully, it will not become a trend.

Ray Dream 3D is one of the easiest and cheapest ways to get started in 3D design. Eventually you may require the advanced features found in more expensive programs such as Ray Dream Studio, Infini-D, or the ElectricImage system. When that happens, upgrade to Ray Dream Studio for just $99 (Metacreations is considering offering an upgrade to Infini-D as well). By the time you have a need for ElectricImage, you probably will be making enough money from your graphics work to easily afford it. *—Chris Florio*

GOOD NEWS: Inexpensive. Relatively easy to use. Cool natural-media rendering. 3D brushes. VRML support.
BAD NEWS: RAM hungry. Interface includes sales pitches.

Achtung Spitfire

COMPANY: The Avalon Hill Game Company
CONTACT: 800-999-3222 or 410-254-9200, http://www.avalonhill.com
PRICE: $45 (direct)
REQUIREMENTS: 68040 or faster, 8MB of RAM

Despite the fact that Achtung Spitfire is a game set in the skies above Europe during World War II and features many different aircraft locked in battle, it is not a flight simulator. Rather, Achtung Spitfire takes a different approach to air combat by using a turn-based tactical combat engine. Based on Avalon Hill's Over the Reich game engine, Achtung Spitfire mirrors the board games for which Avalon Hill is known.

Players assume a dual role in Achtung Spitfire: that of a pilot and that of the supreme commander of air units for the English, the French, or the Germans. Players are given control of each plane on a map (except enemy planes, of course), and they can control them by moving the stick and throttle, or by simply clicking on where they'd like to go. Clicking on the Go button makes the plane move. If the plane is in position to fire, a red cross hair with a number appears on the targeted enemy plane. Clicking on the cross hairs fires. The computer does some probability stuff to see if the shots hit, and then it's the next plane's turn. Once all of a player's planes have moved, the computer gets to go. It's that simple.

Achtung Spitfire also features a network mode, which lets you play a network game using a TCP/IP connection. Although the game's artificial intelligence is sharp (and sometimes a bit too difficult), there's nothing like playing against another human being.

Given its price tag, Achtung Spitfire probably won't provide enough excitement for many gamers. The gameplay, although engaging, is slow; and the animations that happen when, say, a plane is shot down have to run their full course before returning control to the player. Some of the interface elements in the strategy map (such as the automatic pausing of the game in certain situations) are a bit clunky. For players who love strategy board games, though, especially those produced by Avalon Hill, Achtung Spitfire might be a great fit. *—David Reynolds*

EVERYTHING YOU EVER WANTED to know about how European theater planes were modeled is right here.

GOOD NEWS: Innovative approach to air combat. Great as a strategy board game. Good artificial intelligence.
BAD NEWS: Very little action. Interface somewhat clunky. Can't interrupt animations.

reviews

Star Trek: Starfleet Academy

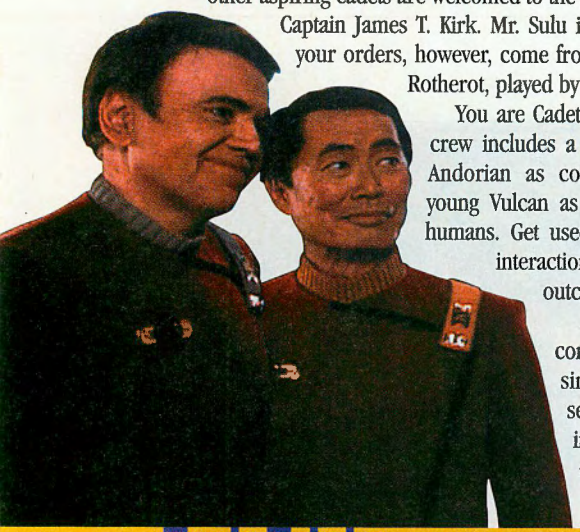
COMPANY: MacPlay
CONTACT: 800-4MACPLAY, http://www.macplay.com
PRICE: $59.95 (SRP)
REQUIREMENTS: PowerPC, System 7.5 or later, 25MB of RAM, 190MB of free hard disk space, 2X or faster CD-ROM drive

CAPTAIN JAMES T. KIRK welcomes new cadets to the rigorous training at Starfleet Academy.

Warm up the transporters, *Star Trek* fans. MacPlay is about to beam you aboard one of the most eagerly awaited games of the season—Star Trek: Starfleet Academy. After numerous production delays, this homage to the venerable *Star Trek* series finally has warped its way onto the store shelves, delivering five CDs of rigorous Starfleet training, complex simulator sessions, and some throat-clogging, eye-bulging, space-age, shoot-'em-up action.

Was it worth the wait? For committed *Star Trek* fans, the answer is a resounding yes. The look and feel of *the Enterprise* bridge is here. The enemies are familiar—Klingons, Romulans, and Gorn Pirates. You'll fire phasers and photon torpedoes, launch probes, and use the tractor beam. And you'll see familiar faces from *Star Trek* movies and television shows.

The story begins in San Francisco's Presidio. You and dozens of other aspiring cadets are welcomed to the cadet training program by Captain James T. Kirk. Mr. Sulu is academy chief. Most of your orders, however, come from Academy Commandant Rotherot, played by Chris Weeks.



You are Cadet David Forester, and your crew includes a Rigelian at the helm, an Andorian as communications officer, a young Vulcan as science officer, and two humans. Get used to them, because your interactions can change the story's outcome.

After the academy welcome, you go directly to the simulator. The early sessions are oddly frustrating. You're told what to do and how to do it, but some important details are omitted. You may have to repeat the first mission six or seven times before you finally figure out how to hail the star base.

A KLINGON WARSHIP crosses your bow near the Onyx system, but you have her in your sights.

Even so, the simulator missions are a kick. From the bridge you can control weapons and see both your crew and the main view screen in the foreground. Or you can opt for a full-field screen with indicators tucked on the sides and bottom. Exterior views also are available, but you'll need a joystick; warping through space with the keypad is hopeless.

The game isn't all fly-and-shoot action, though. Good cut scenes keep the story moving. You interact with the crew and visit crew quarters, the cadet lounge, and the ship's library. You also use a variety of the ship's control stations—fire-control panels, navigation helm, science station, transporter, even engineering and damage control.

If you were expecting something new and different in the way of space shooters, you'll be disappointed. The charm of Starfleet Academy is in its connection to the familiar, not its bold journey into the far reaches of the uncharted. The training simulator has been done before (and better) by LucasArts Entertainment in its TIE Fighter and X-Wing series. The story line—young cadets in training, engaging in a series of critical battle engagements—is uncomfortably similar to Origin Systems' Wing Commander games.

OK, so we're zipping into space that's already been chewed and digested. Starfleet Academy still loads its table with a banquet of eye-popping graphics, super Dolby sound, and a story that makes you feel right at home as the next budding Captain Kirk. —*John Lee*

GOOD NEWS: Nice graphics. Good writing. Excellent Dolby sound. You can create your own missions.
BAD NEWS: Steep learning curve. Doesn't break any new ground. Memory hog.

tips

Trek Tricks

HAIL STARFLEET: To get a star base's attention, press H and then 1. Eventually you'll be told how to hail, but you need to know to end your first mission.

SPEED: As you work through early missions, learn the hot keys. You won't have time to visit individual control panels in the hectic missions later on.

ORDERS AND MISSION OBJECTIVES: Pay close attention to these. You'll get some sneakily worded instructions, and failure is inevitable if you can't figure out the priorities.

CLOSE IN AND UNLOAD: When you come in contact with more than one enemy ship, don't try to battle them all at once. Concentrate on one at a time.

USE PHASERS: Save your photon torpedoes: You have a limited supply, and you'll need them to destroy some of the bigger warships.

Xclaim VR 2.0

COMPANY: ATI Technologies
CONTACT: 905-882-2600, http://www.atitech.com
PRICE: $299 (SRP)
REQUIREMENTS: PowerPC, one or more free PCI slots

In 1996, ATI released the Xclaim VR PCI graphics card for the Macintosh. That beauty of a card did some amazing things: 3D RAVE acceleration, QuickTime playback acceleration, and video input and output. Things change, and so did the Xclaim VR card. Version 2.0 improves on the original, with new 3D RAGE PRO technology, better graphics when connecting a Mac to a TV, and a better software bundle, which includes Macromedia Director 5.

One of the primary reasons to buy a graphics acceleration card is to make games look their best, and the Xclaim VR's 1.2 million-triangle-per-second rendering rate yields lavishly detailed action. The new RAGE PRO technology doubles the 2D and triples the 3D speeds of the original Xclaim VR card. Besides quicker rendering, the new Xclaim VR includes new edge anti-aliasing, texture compositing, and shadows and highlights. MacSoft's Quake never looked so good or ran so fast.

As far as everyday graphics acceleration goes, consider this: On a standard Power Mac 9500/180, scrolling through a 37-page Microsoft Word document took 23 seconds. With the Xclaim VR card installed (and the proper software onboard), the same scroll took five seconds.

Although the Xclaim VR offers great gaming (even though it can't accelerate games that use the Glide API, such as Bungie Software Products' Myth), that's not all it boasts. By using the card's built-in ImpacTV2 NTSC/PAL encoder, an Xclaim VR-equipped Mac can use a standard television as a monitor at resolutions of up to 800 x 600 pixels. Typically, televisions can't display computer graphics with anywhere near the crispness of a computer monitor, and in reality, the Xclaim VR can't get completely around this basic problem. Text is muddy, even at 640 x 480, but the Xclaim VR makes the best of a bad situation. Graphics display acceptably well, and Myth (even without direct support) is a pleasure to play on a really big screen (look at that dwarf head fly). Quake (directly supported) is even, uh, visually better. For gaming or presentations, the Xclaim VR's TV output looks as good as anything else on the market.

QUAKE TAKES ON A WHOLE NEW LOOK with the Xclaim VR card. Walls are smooth, smoke looks more like smoke—and check out that glow surrounding the missile.

The Xclaim VR also accelerates QuickTime movies (allowing full-screen playback) and captures video signals to QuickTime movies—handy for an up-and-coming Spike Lee. The video capture image grabs video at 30 frames per second with 320-x-240-pixel resolution. Because the Xclaim VR card accepts video input, it makes an ideal companion to the Xclaim TV tuner (also from ATI). With the two installed, you can watch TV on your Mac—even have a TV channel as your desktop pattern. Once we did this, though, we didn't get much work done, mostly on account of *Pinky and the Brain.*

If the only thing you need a graphics card for is to accelerate games, then the Xclaim VR may not be for you. Although it does a great job with RAVE-based games, it doesn't handle Glide acceleration (a major system used in games such as Myth and handled by such cards as the TechWorks Power3D). But by supporting 2D acceleration, the Xclaim VR allows more than the limiting 3D-only acceleration of the Power3D. For example, the Xclaim VR allows exploration of VRML, which requires 3D acceleration in a 2D Web browser. And even if you're *really* into games, at some point you might want to explore desktop video, add a TV tuner, or get cleaner, quicker QuickTime. For this, the Xclaim VR card is the way to go. —*David Reynolds*

WHICH ONE OF THESE UGLY MUGS would you rather shoot point-blank? Pixel boy or the smooth, scary block boy?

Good to Know

USE THE FLOW: Spend the extra $69 and get the 4MB memory upgrade when buying the Xclaim VR card.

SET IT LOW: Don't leave your monitor set to Millions of Colors just because you can. It slows down the Finder's drawing process.

LARRY, CURLY, AND MOE: Consider buying the Xclaim TV tuner ($99). It works well with the Xclaim VR card.

tips

GOOD NEWS: Smooth 3D acceleration. Great video-in and -out capabilities. Easy integration with Xclaim TV (or other TV signal). Cheap memory upgrade.
BAD NEWS: No Glide acceleration.

reviews

PhotoDeluxe 2.0

COMPANY: Adobe Systems
CONTACT: 800-888-6293 or 408-536-6000, http://www.adobe.com
PRICE: $49 (SRP)
REQUIREMENTS: 68040 or faster, System 7.1 or later, 16MB of RAM, 70MB of free hard disk space, color monitor

PhotoDeluxe, the consumer image editing offering from Adobe, lets you retouch, manipulate, and otherwise twist digital photos for cheap—once you understand the unusual (yet improved) interface. Keep in mind the price and the phrase "consumer offering;" it's the basis for why Adobe made PhotoDeluxe so different from other Mac applications.

Forget about menus, and don't even think about a floating tool palette. PhotoDeluxe's interface looks more like a Web browser or a Macromedia Director interface than a Mac app. The program takes over your screen, adding its own background and putting up a series of buttons and tabs. These are designed to walk you through specific tasks (say, making a greeting card out of a family photo), instead of letting you work in a free-form environment with a bunch of tools and a palette. Adobe spent a lot of time analyzing what consumers want from digital photos and how they go about getting it. The company adjusted PhotoDeluxe to reflect what it learned.

WE TOOK THIS PICTURE of construction at Bill Gates' mammoth wooden house...

...AND TURNED IT INTO this lovely abstract chrome splash in only a few steps.

The five buttons on the left side of the screen—Get Photo, Special Effects, Cards & More, Internet, and Send—appear in the order in which you most likely will need them. First get a photo, then touch it up, make something with it, and send it (either through the Internet or to the hard drive). Once you become accustomed to working in this fashion, the interface makes a lot of sense, but it's a tough transition for dyed-in-the-wool Adobe Photoshop users. Then again, PhotoDeluxe does not purport to replace Photoshop.

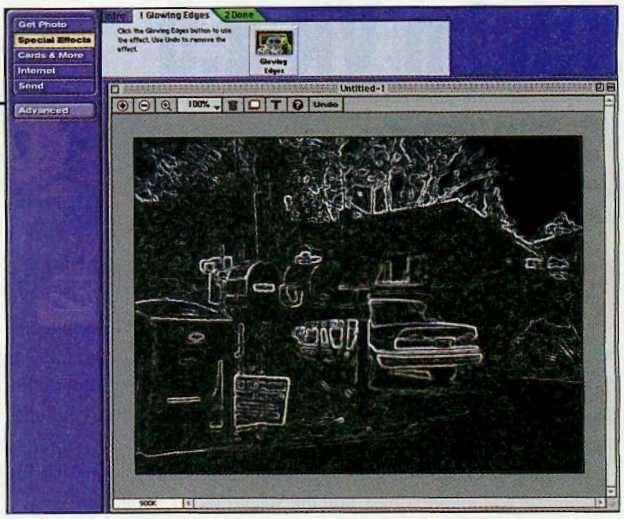
PhotoDeluxe 2.0 doesn't tie you to choosing between guided activities and free-form work, as PhotoDeluxe 1.0 did. Instead, clicking on a button brings up some tabs that contain tools arranged in a step-by-step order, without mandating that order. The addition of the Advanced button lets you access some of the more familiar (and potent) Photoshop tools. There is some serious power here—Adobe uses lots of Photoshop code in PhotoDeluxe.

Tips: Deluxe Tips

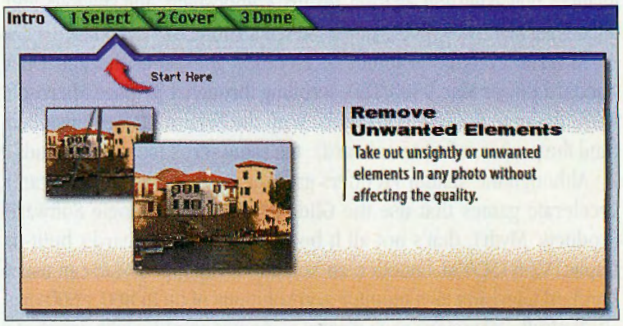
TABS: When you first run PhotoDeluxe, look through all the tabs to get an idea of where the tools are. Once you know where to find them, your work will go more smoothly.

CD-ROM: Keep the PhotoDeluxe CD in the CD-ROM drive when using the program. PhotoDeluxe will check for it.

ADVANCED BUTTON: Use the Advanced button to access some familiar Photoshop tools. Although it's not immediately apparent, some of Photoshop's power lurks under PhotoDeluxe's hood.



THE INTERFACE TAKES some getting used to, but it makes for quick work when applying effects to pictures. This image of Bill Gates' neighbor's garage (honest!) took only a few seconds to modify.



GEARED FOR SPECIFIC TASKS, PhotoDeluxe's tabs lead you to your goal.

PhotoDeluxe 2.0's great new features include red-eye removal; a Clone tool (for duplicating parts of an image); editable, rotatable, and sizable text; and several photo manipulation tools. These features, especially the Clone tool addition, make PhotoDeluxe 2.0 much richer than version 1.0. Of course, some other additions, such as image management, aren't so great. PhotoDeluxe uses the EasyPhoto Organizer, which catalogs files in galleries. The problem is that the gallery files included with PhotoDeluxe point to images on the PhotoDeluxe CD, so unless the CD is in the drive, the sample photos and clip art are not accessible.

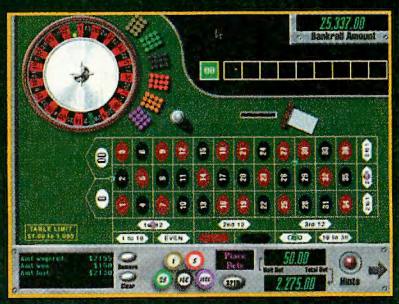
Another downside, PhotoDeluxe takes up a lot of hard disk space. A minimal install occupies more than 70MB of space, and that does not include the photo galleries included with the program. Also, it takes some time to get used to opening and saving files using galleries.

PhotoDeluxe is not Photoshop. Repeat this mantra if you are a Photoshop user picking up PhotoDeluxe 2.0. It will be a frustrating experience. If, however, you're new to digital images and simply want to play around with pictures, PhotoDeluxe will suffice, especially for the $49 price tag. —*David Reynolds*

GOOD NEWS: Easy photo manipulation. Includes Photoshop tools. Good step-by-step procedures. Great power for the price.
BAD NEWS: Interface is a real departure from the Mac standard. Sucks up lots of hard disk space.

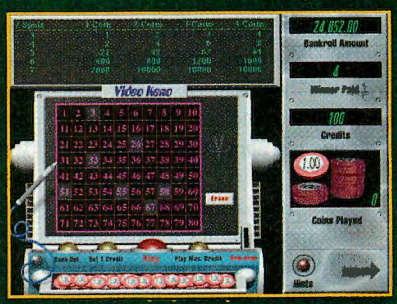
PLAY TO WIN CASINO™

AUTHENTIC VEGAS GAMEPLAY. THE BEST STRATEGIES, TIPS & TRICKS.

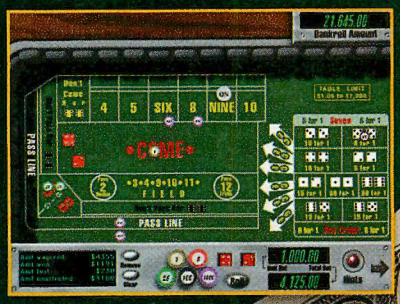


ROULETTE

SLOTS



VIDEO KENO



CRAPS

BLACKJACK

VIDEO POKER

LEARN AS YOU PLAY, NOT AS YOU PAY

- Fast, responsive, highly-realistic casino action
- Tips & tricks integrated into every game
- Optional step-by-step instructions for beginners and advanced strategies for experts
- On-the-fly expert advice. Ask the computer what to do
- Optional warning system alerts you to high-risk bets
- Game and Wager Summaries let you analyze your playing habits
- Complete glossaries and on-line help

Available at Retailers Everywhere!
800-229-2714
Call for a free catalog or visit our website at www.wizworks.com

System Requirements: Any Macintosh running system 7.0 or higher with at least 4MB RAM, CD-ROM drive and 256-color monitor (thousands of colors recommended)

©1997 Varcon Systems, Inc.

VARCON SYSTEMS, INC.

MacSoft®

An affiliate of GT Interactive Software Corporation
2300 Berkshire Lane No., Plymouth, MN 55441 • 612-509-7600
Call for a free catalog or visit our website at www.wizworks.com

reviews

Galapagos: Mendel's Escape

COMPANY: Electronic Arts
CONTACT: 800-245-4525 or 415-513-7555, http://www.ea.com
PRICE: $44.95 (SRP)
REQUIREMENTS: 90MHz PowerPC or faster, System 7 or later, 10MB of application RAM, 10MB of free hard disk space

FIND A DEMO of Galapagos and the 1.1 updater on The Disc.

FIND ANARK on the Web at http://www.anark.com.

Galapagos, not unlike its namesake island chain, is a series of digital laboratories in which the inhabitants constantly evolve—albeit at a much faster rate than Darwin ever imagined. The story of Galapagos revolves around Mendel (as in Gregor, the geneticist), an artificial life form unlike any other computer game character. For the first time, we can say of a computer intelligence, "it's alive."

As an experiment in artificial life, Galapagos succeeds. The little blue Mendel does seem alive. This pipsqueak is constructed of blocky limbs and a buggy torso. Infrared and acoustic inputs on its head act as its senses. Mendel's limbs and senses connect to what Anark, the game's developer, terms Non-stationary Entropic Reduction Mapping (NERM) controllers—Mendel's brain. (See Oct/96, p90 to learn more about NERM.)

As Mendel experiences its environment, it interprets what it "sees" through its infrared eyes, and moves emulated servomotors controlling its limbs accordingly. When first born, Mendel falls off cliffs and walks right into deadly energy beams and lava pools. Each time it dies, a new data point is added to its NERM, and eventually Mendel learns "don't go there" and "don't do that." The Galapagos player can encourage Mendel to turn by clicking on the little character. Mendel acts incredibly lifelike, from whimpering when approaching danger, to occasional unpredictable behavior.

OH NO! THEY KILLED MENDEL! Watch Mendel try to navigate through the world of Sine. Watch Mendel die because you couldn't see the block coming for him.

But Galapagos isn't just an experiment, it's a game. The player must figure out how each of Galapagos' five worlds operates, and guide Mendel through them. Each of the worlds is stunningly rendered in vivid 3D textures, and gorgeous to look at. (The PC version uses 3D acceleration to make it look even better.) Rather than driving Mendel in a first person perspective, the player manipulates the Galapagos environment by clicking (sometimes repetitively) on it while watching Mendel from above.

This is where Galapagos begins to fall apart: As a game, it can be exceedingly frustrating. Unlike the user-controllable camera of Bungie Software Products' Myth: The Fallen Lords, in Galapagos the game moves the camera at will (although it's generally centered on Mendel). This can make parts of the game almost impossible to play: To manipulate the environment, the player must be able to see it, but the camera often swings out of view of an object, and the player can't click on it anymore. Then Mendel dies.

The other half of the gameplay issue is motivation: What reason does the player have to want to keep Mendel alive, to keep playing the game? The introductory story seems barely fleshed out: We're supposed to imagine a world outside of Galapagos that's being overrun by Galapagos itself, and Mendel is a soldier that will be used for evil if we don't help it escape. Unfortunately, the voice-over alone is not enough to make us suspend our disbelief. Also, Mendel, being a complex creature, can grow pigheaded about approaching the puzzles—you would, too, if you kept dying. Finally, at times, it seems as though you're fighting the game itself, not Galapagos, for control.

Darwin Do's and Don'ts

USE THE UPDATER on The Disc. You'll then be able to save at any point, eliminating much of the frustration of gameplay.
SAVE EARLY. Save often.
USE THE EXPORT AND IMPORT FUNCTIONS. A Mendel that's been killed too many times will go schizo and start walking in circles. Import an old one to make him walk straight!
DON'T BE AFRAID TO EXPERIMENT. Most of the puzzles involve figuring out what can be clicked on and the results of that action.

Tips

We're disappointed Galapagos does not provide enough carrots to make us want to keep playing. We think the artificial life and complexity theory driving Mendel are the destiny of computer intelligence and look forward to seeing them used again. Perhaps in a more free-form world, watching Mendel in action would be more enjoyable. On the other hand, this game editor-stumping puzzleland will be challenging to even the smartest of gamers. —*Kathy Tafel*

GOOD NEWS: Hard. Novel, realistic artificial life form. Stunningly intense artwork. Rich, creative levels.
BAD NEWS: Too hard. Can't control camera view. No 3D acceleration support in Mac version. Carpal tunnel syndrome-inducing mouse action.

Running out of good uses for bad software?

Before you lay down the cash...

Experience a complete, fully functional version of an application before you buy. All you need is the disc that comes with this issue of *MacAddict*™, for a timed trial of the software, with no obligation.

Easy to buy...

Try Before You Buy's unique purchasing system allows you to make an instant purchase using your credit card over the phone or via the Internet. Once purchased, *Try Before You Buy*™ software is identical to the store-bought version.

Never buy bad software...

Because *Try Before You Buy* lets you test the product, you know exactly what you're getting into. It's the quickest and easiest way to purchase your games and applications. Check it out, because you don't need another expensive coaster.

NEW IN MARCH

- GearBox 1.5
- Graphic Converter 3.02
- CameraMan 3.0
- QUAKE
- Scrap Diary 1.0
- Web Archer 1.0.1

TRY before you BUY™ 1997

The Easiest Way to Buy Software

Try Before You Buy, the Try Before You Buy logo, "The Easiest Way to Buy Software", and MacAddict are trademarks of Imagine Media, Inc.

Kidz Stuff

Brisbane school kids boogie down to the funky beat of reporting on the latest kids software.

Disney's MathQuest With Aladdin

COMPANY: Disney Interactive
CONTACT: 800-688-1520, http://www.disneyinteractive.com
PRICE: $39.95 (SRP)
REQUIREMENTS: 68040 or faster, System 7.1 or later, 16MB of RAM, 2X CD-ROM drive

FIND A DEMO of Jubilee's Journey on The Disc.

Bone up on your math skills—you'll need them to help Aladdin, Jasmine, and Abu escape from the clutches of the evil genie Bizarra. You'll barter using fruit, create symmetrical mosaics, and mix up the correct amount of magic crystals to free your friends. Of course, you must first escape the dungeon where Bizarra landed you, by adding and subtracting your way through Yazoul's number wall. Iago and the ever-hilarious Genie are there to humor...er...help you when times get tough.

GOOD FOR GRADES: 1 to 3

LIKES: "I like the cartoons, their voices, and the 3D pictures." ▪**Jonathon**

"I liked how they taught you so much stuff and how they made it into a game." ▪**Traci**

DISLIKES: "I do not like the games." ▪**Kiah**

"I didn't like that it took forever to get into. It took me more than 10 to 15 minutes. I hated waiting." ▪**Amanda**

SOUND ADVICE: "I would make it take less time to go somewhere when you click on it." ▪**Michelle**

FINAL REPORT: Robin Williams, as Genie, shines in an otherwise uninspiring production.

ALADDIN'S BIG BUDGET MATH ADVENTURE lacks magic, even with the genies. If you loved the movie, well, whatever.

Meet the players...

KIAH BUCHNER, Age 10, Grade 5
EXPERTISE: Boogie boarding
PICK OF THE MONTH: Make-a-Map 3D

TRACI NOWAKOWSKI, Age 10, Grade 5
EXPERTISE: Soccer
PICK OF THE MONTH: Where in Time Is Carmen Sandiego?

MICHELLE GOODWIN, Age 11, Grade 5
EXPERTISE: Shopping
PICK OF THE MONTH: Jubilee's Journey

BRUNO BOVO, Age 10, Grade 5
EXPERTISE: Skydiving
PICK OF THE MONTH: Where in Time Is Carmen Sandiego?

CHRISTINE SHULENBERGER, Age 10, Grade 5
EXPERTISE: Shopping
PICK OF THE MONTH: All Dogs Go to Heaven Activity Center

JOLIE LAU, Age 11, Grade 5
EXPERTISE: Music
PICK OF THE MONTH: Young Dilbert in Hi-Tech Hijinks

JONATHON BUTTON, Age 10, Grade 5
EXPERTISE: Bungie jumping
PICK OF THE MONTH: Where in Time Is Carmen Sandiego?

AMANDA OLSON, Age 10, Grade 5
EXPERTISE: Sports
PICK OF THE MONTH: Young Dilbert in Hi-Tech Hijinks

All Dogs Go to Heaven Activity Center

COMPANY: MGM Interactive
CONTACT: 800-646-5808 or 708-799-2350, http://www.mgm.com
PRICE: $29.95 (SRP)
REQUIREMENTS: Power PC, System 7.0 or later, 16MB of RAM, 2X CD-ROM drive

Young dog lovers will be in seventh heaven mixing up their own mutts, playing canine card games, coloring pictures, and combing away fleas in this lively activity center featuring the world's wackiest dogs. Unlike most playful pups, these dogs take on air hockey, tell corny jokes, and paint masterful imitations of such greats as Picasso, Van Gogh, and Warhol. Kids barking for more facts can sample video snippets of more than 50 breeds of real-life dogs.

IF YOUR DOG BEATS YOU AT CARDS, you don't need this disc. Otherwise, it's a must-have for any kid.

GOOD FOR GRADES: K to 5
LIKES: "I like how all of the dogs had a different game to play." ▪**Bruno**
"I really liked the art center. They had color-in and connect-the-dot pictures." ▪**Amanda**
"I liked the connect-the-dot and coloring." ▪**Kiah**
DISLIKES: "I didn't like the fat dog's game. It was boring." ▪**Jonathon**
"The dogs talked too much." ▪**Christine**
SOUND ADVICE: "I would make it more educational." ▪**Traci**
FINAL REPORT: Hot dog!

Young Dilbert in Hi-Tech Hijinks

COMPANY: KnowWonder
CONTACT: 888-566-9637 or 425-482-0202, http://www.knowwonder.com
PRICE: $34.95 (SRP)
REQUIREMENTS: 68040 or faster (80MHz Power PC recommended), System 7.0 or later, 16MB of RAM, 2X CD-ROM drive

Long before Dilbert turned into a jaded cubicle dweller, he was a fun-loving computer kid with a messy room and one ugly computer virus. You must help young Dilbert and his pals, Dogbert and Ratbert, scare away the slimy bug by diving into the broken computer and repairing components. You'll learn how computers work while playing games to fix the shattered hard drive and cracked RAM. Once you've got the disaster under control, you can roam around Dilbert's room for even more "hi-tech" adventures.

GOOD FOR GRADES: 3 and up
LIKES: "I like this game because there are a lot of fun games to play." ▪**Jolie**
"I like when you play tick-tac-toe and also making art." ▪**Traci**
"I really liked the alien chasing game." ▪**Amanda**

YOU DON'T HAVE TO BE A BITTER VICTIM of the corporate caste system to love Dilbert and his nerd posse, Dogbert and Ratbert.

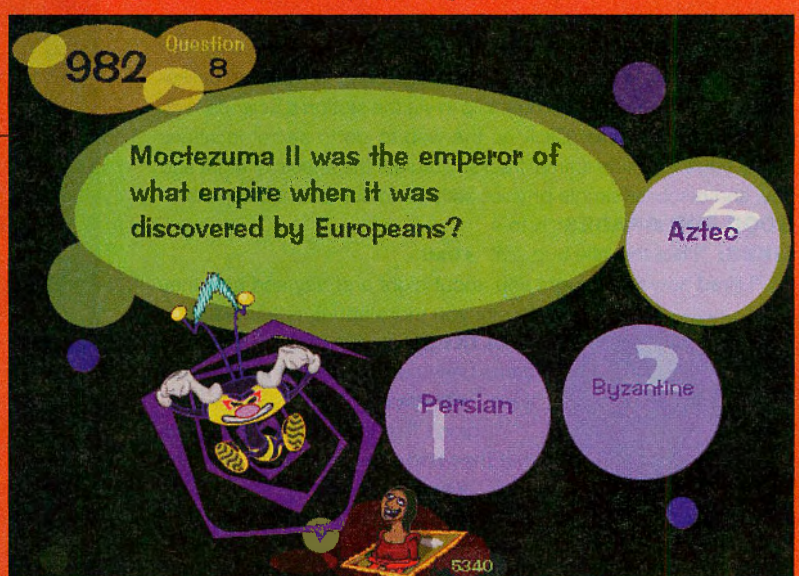
DISLIKES: "I didn't like how the characters moved because they moved slow." ▪**Bruno**
"All you do is write your name and age, then they talk and talk and they won't give you a chance to do anything. What blabbermouths!" ▪**Michelle**
SOUND ADVICE: "I would put in more games and things to do." ▪**Kiah**
FINAL REPORT: If only a broken hard drive could really be this fun....

GeoBee Challenge

COMPANY: National Geographic Interactive
CONTACT: 800-234-3088 or 415-897-9900, http://www.mindscape.com
PRICE: $29.99 (SRP)
REQUIREMENTS: 33MHz 68030 or faster, System 7.5 or later, 8MB of RAM, 2X CD-ROM drive

You Don't Know Jack meets Jeopardy in this geography quiz game that's virtually buzzing with oddball characters, silly categories, and seriously tough questions. BuzzBee, your animated host, referees the contest between you and up to two of your friends as you ring in answers to more than 2,000 brain stumpers, bonus questions, and surprise challenges.

GOOD FOR GRADES: 5 and up
LIKES: "I like all the questions that they ask you because they are very challenging." ▪**Traci**
"I liked the cartoons." ▪**Jonathon**
"They made a game out of school." ▪**Christine**
DISLIKES: "I didn't like how the game was only about asking questions." ▪**Bruno**
"I did not enjoy the questions, they were either too easy or too hard." ▪**Kiah**
SOUND ADVICE: "Make the questions not as hard. Also, make levels." ▪**Amanda**
FINAL REPORT: The buzz be good.



GEOGRAPHY QUIZ GAME puts kids on top of the world with tons of tough questions.

Where in Time Is Carmen Sandiego?

COMPANY: Brøderbund Software
CONTACT: 800-548-1798, http://www.broderbund.com
PRICE: $39.95 (SRP)
REQUIREMENTS: PowerPC only, System 7.1.2 or later, 8MB of RAM, 2X CD-ROM drive

Crack open the history books, gumshoes, there's no time to lose. Elusive crime queen Carmen Sandiego has stolen the world's only time-travel device and blasted to the past to pick up and pocket history's most treasured relics. You'll brush elbows with the vikings, help a pharaoh in need, compose symphonies with Beethoven, and consort with a slew of other past-tense muckety-mucks as you collect the clues to Carmen's big-time crimes.

GOOD FOR GRADES: 4 to 6
LIKES: "I liked the sound effects, and the graphics, and how the game was fun." ▪**Bruno**
"I liked the graphics. I also liked the way they talked." ▪**Traci**
"I liked the music and the pictures—really everything." ▪**Jonathon**
DISLIKES: "I don't like the game because there is not much to do." ▪**Jolie**
SOUND ADVICE: "I do not want to change anything." ▪**Kiah**
FINAL REPORT: Two-disc crime spree pays to play.

TIME LITERALLY FLIES when you're tracking down crooks with a penchant for the past. Clue-sniffing history hounds are on the right track.

Thinkin' Science

COMPANY: Edmark
CONTACT: 800-691-2985, http://www.edmark.com
PRICE: $29.95 (SRP)
REQUIREMENTS: 25MHz 68030 or faster, System 7.0.1 or later, 8MB of RAM, 2X CD-ROM drive

A leaf, a rock, a sock, and a paper bag spring to life as an unlikely science title. The scouts blip in via the station's Science Web with experiment alerts. Click on the web to go to secret locations where you'll examine animal tracks, simulate the effects of night and day, and discover simple physics with pendulums and catapults.

GOOD FOR GRADES: K to 4
LIKES: "I like the little bug girl." ▪**Traci**
"I liked how they taught you about night and day and how they taught you more about rocks." ▪**Kiah**
DISLIKES: "I did not like the web game because they did not give instructions." ▪**Christine**
"I didn't like the choices of objects that they had—the rock, bag, leaf, and sock." ▪**Amanda**
SOUND ADVICE: "Add more details." ▪**Michelle**
FINAL REPORT: Works faster than warm milk. Zzzz-zzz.

MONOTONOUS SCIENCE EXPERIMENTS offer many levels of difficulty, but you'll be too bored to try them all.

Jubilee's Journey

COMPANY: RMC Interactive
CONTACT: 800-762-6443, http://www.mindmagic.com
PRICE: $39.95 (SRP)
REQUIREMENTS: 68040 or faster, System 7.1 or later, 16MB of RAM, 2X CD-ROM drive

GOODALL THROWS A MONKEY into her good works with ecofriendly results.

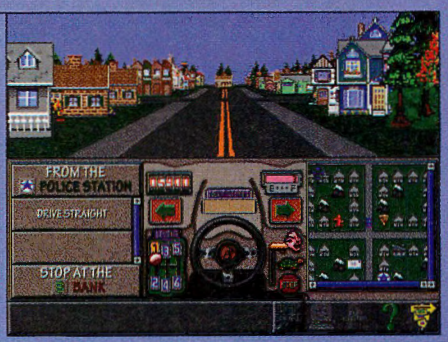
Young recyclers aching to save the world from the trash-tossing, clear-cutting, oil-spilling "just me's" need to find six hidden objects from around the world to help people clean up the environment and save the earth. Jane Goodall offers encouragement via short video bits while her pet monkey Jubilee (you'll love him or you'll hate him) takes you traveling on his bicycle in search of ecofriendly games.

GOOD FOR GRADES: 1 to 5
LIKES: "It taught me a lot about our environment." ▪**Jolie**
"I liked everything, especially the cute monkey." ▪**Kiah**
"I think that everything I saw was fun and exciting" ▪**Michelle**
DISLIKES: "I didn't like how you have to listen to them talk, and also, all the games on there are boring." ▪**Traci**
"I hated the little monkey." ▪**Jonathon**
SOUND ADVICE: "Have Jane talk slower." ▪**Christine**
FINAL REPORT: Think green!

Make-a-Map 3D

COMPANY: Panasonic
CONTACT: 888-PANAKID or 408-653-1888, http://www.learningladder.com
PRICE: $39.95 (SRP)
REQUIREMENTS: 68040 40MHz or faster, System 7.1.1 or later, 8MB of RAM, 2X CD-ROM drive

Get a grip on getting around with this innovative approach to mastering maps that literally drives home learning. Lost souls start at the visitor's center to learn simple directions and map basics, or they can head straight to the fun stuff—making maps. Place streets, trees, buildings, and houses on a grid to make your own town, then hop in your car and drive around the 3D replica.



DRAW AND DRIVE 3D DISC revs up your idle map-making skills and takes you on the road.

GOOD FOR GRADES: 4 and up
LIKES: "I liked how you drive your car and how you get to make your own maps. I enjoyed this CD a lot." ▪**Kiah**
"I liked it when you could crash into things." ▪**Michelle**
DISLIKES: "I didn't like how it was hard to drive" ▪**Jonathon**
"I didn't like that Madison kept saying, 'Ooh, what a wipeout. You'll have to go back to the shop for repairs.' He got very annoying." ▪**Amanda**
SOUND ADVICE: "Put more games on it." ▪**Bruno**
FINAL REPORT: Gives directions to young lives—in 3D!

EARTHLINK NETWORK® MEMBER BENEFIT # 17

Free Internet Access

FOR EVERY NEW MEMBER YOU REFER*,
YOU WILL GET A MONTH OF FREE INTERNET ACCESS.
IT'S THAT SIMPLE.

No catch, no strings - the program is open to all EarthLink members.

Every month, we give thousands of our members free access. In fact, some of our members refer so many people, they never have to pay for their Internet access.

Our free access program is just one of many benefits EarthLink members enjoy. If you're not getting free Internet access from your current provider, give us a call.

EarthLink Network®

It's *your* Internet.™

- EMAIL
- UNLIMITED INTERNET ACCESS
- FREE 24-HOUR HELP LINE™
- PERSONAL START PAGE
- 33Kbps/56Kbps
- NATIONAL ISDN
- FREE 2MB WEB SITE
- OVER 810 LOCAL DIALUP #'S
- NEWSLETTER
- INTERNATIONAL ROAMIING
- NEWSGROUPS
- FREE INTERNET USER GUIDE
- COMPLETE SOFTWARE FOR WINDOWS OR MAC
- CHOICE OF BROWSER
- 800# ACCESS OPTION

1-800-815-1932, ext. 102

*For details on EarthLink Network's Referral Program check out http://www.earthlink.net/company/free_access.html

© 1997 EarthLink Network, Inc. Trademarks are the property of their respective owners. All rights reserved.

PC MAGAZINE EDITORS' CHOICE™
September 9, 1997
EarthLink Network

how to

how to jazz up HyperCard stacks

HyperCard stacks don't have to be as ugly as, well, HyperCard stacks.

"Poverty preserves," as the Catalan saying goes. It certainly has been true of HyperCard, the world's first multimedia authoring program and possibly the only personal computer software in recorded history to celebrate its 10th birthday still in version 2. Bill Atkinson's brainchild has managed to survive the last decade despite—or, perhaps, because of—Apple's evident determination to starve it to death. (Have you tried to buy HyperCard recently? Apple sure doesn't make it easy to find; see "Where the Heck Do I Get It?")

What kept it alive? HyperCard addicts, of course—and we know there are thousands of you out there.

You stackers know that HyperCard was so ahead of its time in 1987 that the rest of the world still hasn't quite caught up yet. Total interactivity! A complete text-chunking scripting language! Plug-ins! That doesn't mean it's perfect. For every fast-forward feature, there's some antediluvian limitation, such as lack of support for real color or drag-and-drop or text blocks bigger than 30K or...well, the list does go on. And let's face it, stacks have always been kind of ugly. That 1-bit, 1987 look is just the worst kind of retro. Here's how to brighten your stacks. —*Steven Anzovin*

FIND A DEMO of MegaFields, a Color Tools tutorial stack, and the HyperCard 2.3.x updater on The Disc.

Add Color to Stacks

Because color is an alien concept in HyperCard, color-adding externals do their work on card or background layers in another dimension. This forces you to go through all kinds of contortions to do what comes naturally in other programs, and it constrains what you can achieve. But the users of your stacks probably won't notice—they'll just be happy you didn't resort to the fish-scales pattern again.

Hot Tip:

HyperCard stack updates for Mac OS 8 are on the Mac OS 8 CD. Several reference and help items were modified so that they no longer create a menu called Help, which conflicts with Mac OS 8's system Help menu. The updated stacks are needed only when running HyperCard with Mac OS 8 or later.

What You Need:

- HyperCard 2.3.5
- At least 512K allocated to the HyperCard application
- The Color Tools stack, which comes with HyperCard
- MegaFields 1.2 or later ($59.95) from Royal Software (800-888-7667 or 937-438-5975, http://www.royalsoftware.com/default.html), the only company in the world that makes its living entirely from HyperCard add-ons.

To Install Color Tools:

1. Open the Color Tools stack.
2. Click on Install Color Tools. This button installs resources into your Home stack and adds handlers to the Home stack script. A new menu, Color, joins the HyperCard menu bar.
3. Go to the Home stack (press Command-H or the Home key). You'll see a new button called Color Tools. Make sure it's on. Also check that HyperCard is set for authoring. Press the left arrow key to go to the last Home card. Select User Level 4, Authoring, or User Level 5, Scripting. Or, from any stack, press Command-M to call up the Message box, type "set userlevel to 5", and hit Return.

THE COLOR TOOLS STACK adds color to your HyperCard world.

Where the Heck Do I Get It?

Getting your hands on a new copy of HyperCard ($99 SRP for version 2.3) is easier than pinching live flies out of the air, but not much. For starters, forget about finding it retail, except maybe in some musty university bookstore. (To locate a reseller in your hemisphere, call 800-538-9696.) Nor will you see it pictured in the major Mac direct sales catalogs, though they may be able to get it for you if you ask. To order HyperCard online, go to http://www.claris.com/products/sales/order-apple.html. Alternately, call 800-331-6187, ext. 311.

To upgrade from version 2.3.x to version 2.3.5, you'll need to download a free updater. It's on The Disc. Or look for it on the Apple HyperCard Developer World page at http://www.hypercard.apple.com/dev_world.html —also a good source for other HyperCard goodies—or on America Online's HyperCard and Apple areas. Download either the HyperCard 2.3.5 Updater 1.1 or the Update Installer 1.1, which is considerably larger. Both of these will update the application to 2.3.5, but the Update Installer also installs 2.3.5 versions of StackToApp, Readymade Buttons, Color Tools, Audio Help, and Power Tools. It's the right thing to do.

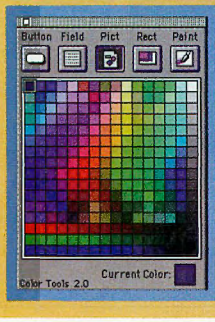
TIP 1 Add a Color Picture to a Card

1. Open an existing stack, or create a new stack by choosing New Stack from the File menu.
2. Choose Open ColoringTools from the Color menu. The Color Tools stack adds color resources to the stack. The menu bar changes to show choices available in Color Editing mode, and the color palette opens.
3. If you want the picture (or any other object) to appear on all cards of your stack, press Command-B to enter Background mode. Anything placed on the background is shared by all cards with that background. Stay in Card mode to put the picture on the current card only.
4. Choose Place Picture... from the Items menu. In the dialog box, click on Import, and select the picture you want. Click on Place to put the picture on the card.
5. Drag inside the picture to place it exactly. Resize the picture by dragging a corner. Pressing the Shift key as you drag a corner does not preserve the picture's aspect ratio, as in any normal, well-socialized graphics program; it merely constrains the resizing to the horizontal or vertical axis. Note that 16- or 24-bit pictures will automatically be dithered down to 8-bit (256 colors).

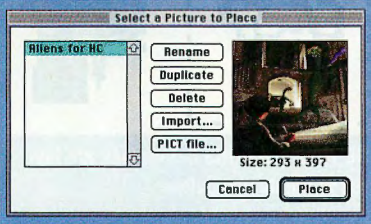
To Draw a New Color Picture:

1. Turn on Color Tools, and choose Create New Picture from the Items menu.
2. Name your new picture, draw it with the MacPaint-style color paint tools, then save the picture and close the color paint palette.
3. Place your picture using the above technique.
4. Note that the picture will come in as a rectangle, without any transparency. Double-click on the picture, and turn on Transparency in the box that pops up. All white areas become transparent.

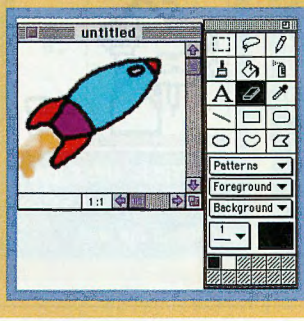
If you need to draw or layer pictures in a more sophisticated way, do it in MetaCreations Painter or Adobe Photoshop first, then import the finished picture. Note, however, that pictures made with Color Tools are a lot smaller than PICTs made with Painter or Photoshop, and that helps maintain the performance of your stack.



THE COLOR PALETTE has mode-switching buttons along the top and a fixed 256-color palette below.



USE THE PLACE PICTURE BOX to import PICTs. Available images are listed on the left.



HYPERCARD'S COLOR PAINT TOOLS make compact files, but don't give up Photoshop yet.

TIP 2 Add Spot Color to Objects

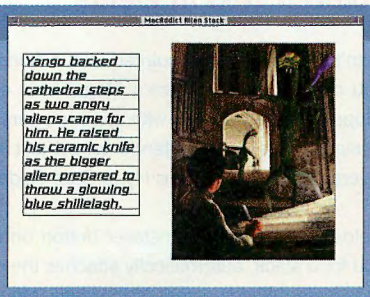
1. Choose a color from the color palette.
2. Click the field button on the color palette.
3. Click the field. The field background will take on the selected color.
4. Double-click the field to bring up the Field Information box. Here you can more precisely set the field size and color, and add a bevel (an edge treatment).
5. Want a rectangle of spot color without text? Add color to an empty, transparent field. It works better than the Place Rectangle option in the Items menu.

For a Circle or Oval of Spot Color:

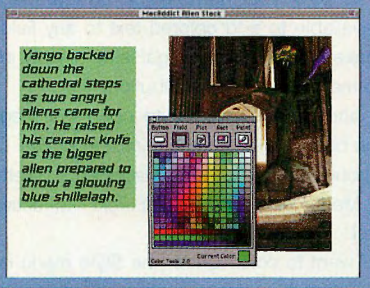
1. Before you enter Color Editing mode, create an oval button. Choose New Button from the Objects menu, and choose Oval from the button-type pop-up menu in the Button Info box. Click OK, then drag the corners of the button marquee to set the oval's size and dimensions. Press the Shift key while you drag to create a perfect circle.
2. Enter Color Editing mode. Click the Button button in the color palette.
3. Click the color you want, then click the oval button. You'll see a rectangular marquee, but color will fill only the oval.

If you move colored objects when you're not in Color Editing mode, the color blocks won't move with them. Choose Redraw Screen from the Color menu to align things again.

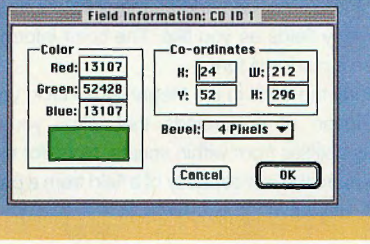
To change the layer relationships of colored objects (which object is on top of which), enter Color Editing mode and use the Bring Forward and Send Back commands in the Items menu. You can't change the layer relationships of colored objects in the normal black-and-white Button or Field editing modes.



BEFORE ADDING SPOT COLOR, you'll need a new field.



TEXT REMAINS BLACK while the color goes behind, so don't use a color that will make the black text hard to read.



SET PRECISE PARAMETERS for color and position here. The bevel for fields goes "in," while the bevel for buttons goes "out."

TIP 3 Make a Color Icon for a Button

1. You can't use color icons directly in HyperCard, so open the icon in an icon editor or paint program, and save it as a PICT. Or create your own icon in a paint program and save it as a PICT. The HyperCard icon size is 32 x 32 pixels.
2. Place the PICT on the card as above.
3. Exit Color mode and choose New Button to create a new card button. Make it transparent and set the Auto Hilite property to on. Click OK to save your changes, then position the button over the color icon. The picture underneath will show through the button.

The button functions as it should, except for one thing: When you click, the whole area of the button turns black, instead of just inverting the button picture. (If you set the button's Auto Hilite property to off, you won't get the black box effect, but you also won't get any feedback when you click the button.) So try this more elaborate alternative for a better-looking color button:

- The trick is to create two versions of a button icon, a black-and-white one that HyperCard can use, and a color one to use as a PICT. First, create an 8-bit, color, 32-x-32-pixel image in a paint program. Save it as a PICT.
- In your paint program, using the same PICT, create a 1-bit, black-and-white version. Copy it to the Clipboard.
- Go to HyperCard. Import and position the color PICT as above.
- Create a new, transparent button. In the Button Info box, click on Icon... to choose a button icon.
- In the Choose Icon box, select an icon to edit. Click on Edit... to go to the Icon Editor.
- In the Icon Editor, press Command-A to select the icon. Paste in the 1-bit image from the Clipboard. Use the pencil tool to make any changes here. Name the new icon, exit the Icon Editor to save your work, then double-click on the new icon to apply it to the button.
- Position the button over the PICT, and return to Browse mode. Now when you click the button, it highlights properly.

CREATE OR IMPORT a 32-x-32-pixel image to use as a button icon.

USE HYPERCARD'S icon editor to make a 1-bit version of the icon.

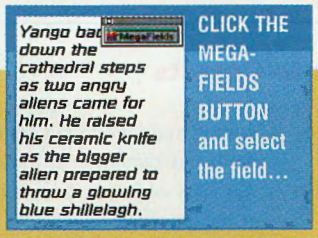
THE TWO VERSIONS before they are layered to create one button.

THE HIGHLIGHTED BUTTON, ready for action.

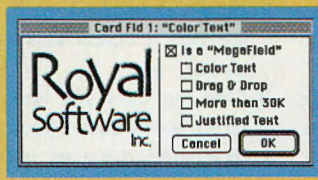
TIP 4 Put Colored Text in Fields

HyperCard 2.3.5 doesn't directly support colored text in fields. So to perform this trick, you need Royal Software's MegaFields external. MegaFields adds a dopplegänger window with super powers on top of any field in your stack. This field pretends to be just like the HyperCard field it covers, but unlike regular HyperCard fields, it can have colored text.

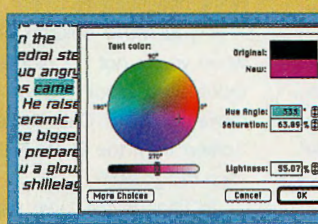
1. Go to the MegaFields stack. Click the Installer button on the first card; it prompts you for a stack, automatically attaches the relevant scripts to it, and adds a MegaFields palette to the stack. MegaFields also can alter the script of your home stack, so that MegaFields palette always is available to add colored text to any field in any stack. However, make sure to install MegaFields directly into your stack if you plan to make copies for distribution.
2. Go to your stack and press Control-F to open the MegaFields palette. Clicking the button changes the cursor to a plus. Click on any card or background field to see the MegaFields palette. Click "is a MegaField" MegaFields and "Color Text" to activate the MegaFields external.
3. Select the text you want to color. Under the Style menu is a new option, Text Color. Select the color you want, either from the submenu or the Color Picker. You can add as many colors as you like to the field, to as many fields as you like. The color information is stored in HyperCard's resource fork.
4. Scripters should study the docs in the MegaFields stack; you'll find a complete description of commands that allow you to call MegaFields' various abilities from within scripts. Note, for example, the command to expand the text capacity of a field from a paltry 30K to a spacious 4MB. Hey now!



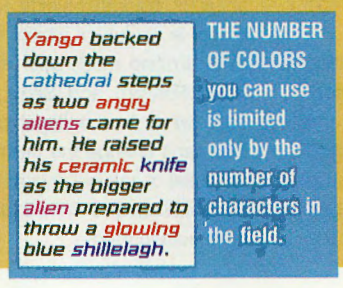
CLICK THE MEGA-FIELDS BUTTON and select the field...



...TO SEE the Megafields palette.



ANY COLOR in the Color Picker is taken on by the selected text.



THE NUMBER OF COLORS you can use is limited only by the number of characters in the field.

Steven Anzovin has put hundreds of bitter MIS guys out on the street by rewriting their mainframe code in HyperTalk. He wears a bullet-proof vest at all times.

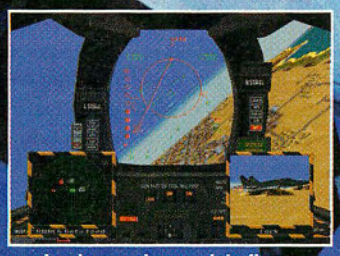
Permission to Engage

TOP GUN™

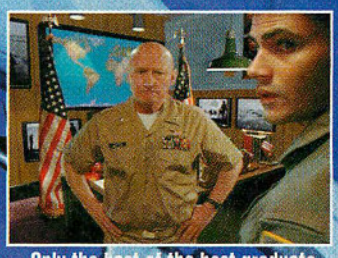
FIRE AT WILL

You are Maverick-
and you've got
your orders on your
mind, Commander
Hondo
on your back and
MiGs on your tail.
So fuel up.
Strap yourself in.
And let 'em know your bark
is nothing...
next to your bite.

High-resolution voxel engine creates a photo-realistic experience



Lead your wingmen into fierce dogfights and air-to-ground combat in over 40 missions



Only the best of the best graduate from Top Gun

Training missions at the Naval Air Station at Miramar prepare you for intense combat

TOP GUN © 1997 Paramount Pictures. All Rights Reserved. Spectrum HoloByte is an authorized user. Spectrum HoloByte is a registered trademark of Spectrum HoloByte, Inc. MicroProse is a registered trademark of MicroProse, Inc. or its affiliated companies. All other trademarks are the property of their respective holders.

MICROPROSE

800-229-2714

Call for a free catalog or visit our website at www.wizworks.com

MacSoft®

An Affiliate of GT Interactive Software

2300 Berkshire Lane, Plymouth, MN 55441 612.509.7600

how to create inline frames

Learn everything you need to know about these low-impact frames.

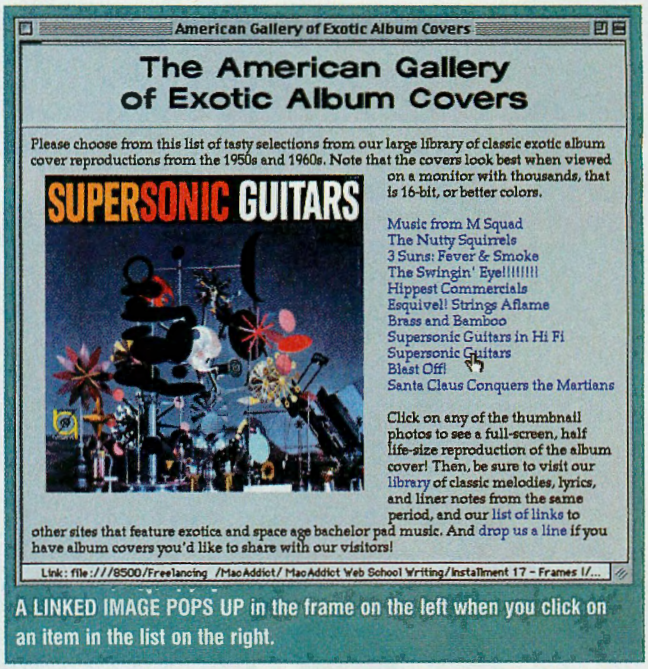
Frames, as we discovered in the last two columns, are not horribly difficult to build—somewhere on the easy side of a Heathkit walkie-talkie. They *are,* however, a fairly intrusive method of displaying information, throwing up scroll bars and borders and such all over the page and mixing up your visitors' attempts at navigation.

Now that you've learned to construct frames using nothing but your bare hands, Elmer's glue, and raw HTML, we've got an unusual, low-impact form of frames that you may find intriguing. They're called *inline* frames, nicknamed *floating* frames, and you can't build them with Adobe PageMill or any other WYSIWYG tool. The only way to build an inline frame is with a tool such as Bare Bones Software's BBEdit and your newly acquired knowledge. Remember when we promised you'd be glad you learned to code these things by hand? Here goes.

You're probably accustomed to frames as intrusive, lumbering pieces of page design, sort of like a deck built onto the back of your house made of massive steel girders and huge pieces of timber. Stop and alter your expectations a bit. Picture a simple window onto your garden. Imagine a window smack-dab in the middle of your page, a portal you can set down anywhere on the page, which your visitors peer through onto another page or image.

Check out our example—the picture on the left looks like a typical image, with text wrapping around it. But here's the kicker: Click on any of the links in that list on the right, and *the image changes to match the selection.* The whole page remains intact—the clicks change just the image. It's an image! It's a frame! It's two features in one! And with none of the typical clumsiness of frames. I can think of more than a few uses for inline frames, and I'll bet you can, too.

Why put an image into a floating frame? Because it's very, very cool, of course. But it's functional, too. It's perfect for thumbnail views, a snippet of text, anything that deserves a quick glance. *—Joseph O. Holmes*



A LINKED IMAGE POPS UP in the frame on the left when you click on an item in the list on the right.

Important Note:

Before we go further, brace yourself for the bad news. Inline frames are supported by only Microsoft Internet Explorer 3.0 and later—and in my experience, they can act pretty darned flaky in Explorer 3.x; they're fine in Explorer 4.x, however. Netscape Navigator doesn't display floating frames at all. You'll have to warn your visitors that they're missing some content if they don't have Explorer. Later I'll go into a slightly more attractive solution for browsers that can't see inline frames.

STEP 1 Tag! You're It!

As you remember, a <frameset> tag replaces the <body> tag on an HTML page. Inline frames work differently. Even though we're working with a kind of frame, forget the frameset concept altogether. An inline frame is built around a simple pair of tags: <iframe> and its closing counterpart, </iframe>. Treat these tags like image tags, not like <frame> tags. You can put them anywhere on a page that an image would fit. In our example above, we put the inline frame tags on the HTML file that our bottom frame points to. Catch that? The inline frame tags are not in our frameset but in the document that's used to fill the lower frame.

Important Note:

Nothing **goes between the opening and closing <iframe> tags. Anything appearing between them is ignored when the frame is displayed.**

STEP 2 Add Frame Attributes

Inside the opening <iframe> tag is where you put your usual selection of frame attributes, including frameborder, marginheight, marginwidth, name, scrolling, and src, as below:

```
<iframe src="supersonic.jpg" frameborder="1"
marginwidth="5" marginheight="5" NAME="album_frame"
SCROLLING="no"></iframe>
```

All these attributes act just as they do within the usual frame tags; that is, your floating frame can have scroll bars, adjustable margins, a border, and a name for targeting, just as regular frames do. We covered the details of those attributes over the last two months.

STEP 3 Add Image Attributes

Inline frames act like an image, so guess what—you can manipulate the frame as if it were an image. Insert attributes such as align, height, and width inside the <iframe> tag.

Here's a typical example, lifted from this month's sample page:

```
Please choose from this list of tasty selections from
our large library of classic exotic album cover
reproductions from the 1950s and 1960s. Note that the
covers look best when viewed

   <iframe src="cover_images/supersonic_thumb.jpg"
width="150" height="150" align="left" frameborder="1"
marginwidth="5" marginheight="5" NAME="album_frame"
SCROLLING="no">
   <br>
   <b>!!Sorry, your browser does not support inline
frames. Please select your images from <A
HREF="files.html">this list.</A>!! </b>
   <br>
   </iframe>

on a monitor with thousands, that is 16-bit, or better
colors.<br><br>
```

Examine the HTML closely, and you'll see that we plopped the <iframe> tags right in the middle of our body text. Because we inserted an align="left" attribute, the frame sits on the left with text starting above and wrapping all around it.

STEP 4 Target the Inline Frame

To our <iframe> tag we also added a name attribute, which you'll remember from last month's discussion of regular frames. This lets us use a target attribute to force a link to load into the named inline frame. Without a target, the new page simply loads into the entire browser window. In our example, the header includes this info:

```
<html>
<head>
   <meta name="GENERATOR" content="Adobe PageMill
2.0 Mac">
   <base target="album_frame">
   <title>Untitled Document</title>
</head>
```

All the links on this page then load into our inline frame, which we named "album_frame."

Remember, for the other links on the page—which we *don't* want to load into the inline frame—we can override that base tag by putting a target attribute into individual anchors, not into the header:

```
<A HREF="library.html" TARGET="_top">library of
files</A>
```

A target inside an anchor always overrides the base tag. This is just a cursory run-through of names and targets. For the details, see "How to Create Frames, Part 2," Feb/98, p78.

STEP 5 Straighten Up That Frame, Soldier!

If you don't specify the height and width of your inline frame, it defaults to 150 pixels high by 300 pixels wide. If you don't care for that particular size, use the height and width attributes inside the opening <iframe> tag. In our example, we have a square 150 pixels high by 150 pixels wide:

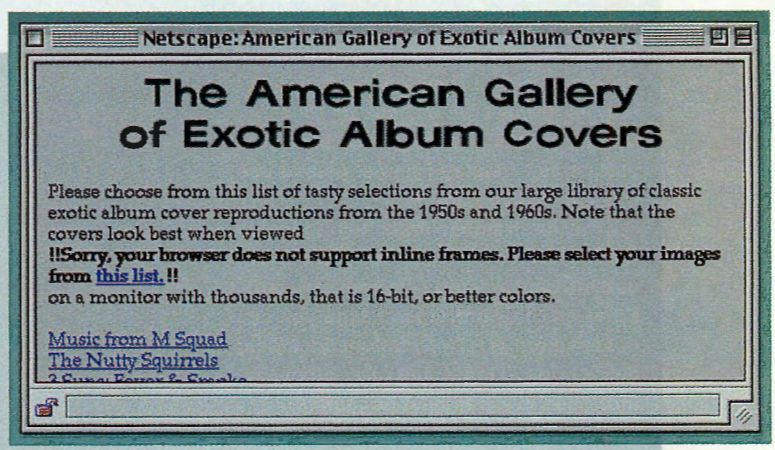
```
<iframe SRC="supersonic.jpg" width="150"
height="150"></iframe>
```

STEP 6 But I Hate Internet Explorer!

Don't have a cow, man. It's only a browser, for cryin' out loud, not a drug dealer or Microsoft Word 6. Nonetheless, you will want to be kind to visitors with other browsers, and we mean Netscape Navigator. Alert them to your inline frames and offer them an alternative. Here's the secret: Insert some text between the opening and closing <iframe> tags.

As I said earlier, anything appearing between the two tags is ignored when the frame is displayed. *But!* The text *will* be displayed by (most) browsers that can't make any sense of the <iframe> tags. At right is how our page looks to Netscape Navigator 4.0.

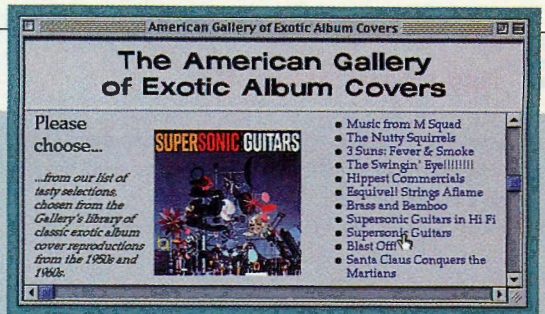
Note that the text arrives intact but that you lose the image-type features such as alignment. You can check out the HTML for all of this under Step 3.



STEP 7 Slap an Inline Frame Into a Table

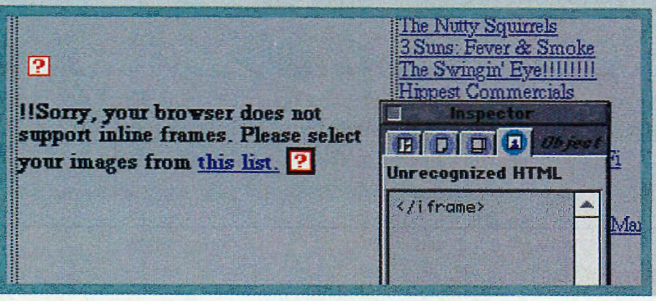
I lied. You *can* use PageMill, or any other WYSIWYG tool, to work with inline frames. Of course, you'll have to insert all the <iframe> code with your tool's HTML editing mode. And the frame won't display in preview mode. So why bother? Well, I'd rather build a table in PageMill than in bare HTML any day.

So here's a last suggestion: Use a table to lay out your inline-frame page. Below is a table-layout alternative to our example:



THE INLINE FRAME remains subtle and very useful.

WE DID THE GRUNT WORK—the tables—in PageMill, which kept our <iframe> tags intact, even though we couldn't work with them.



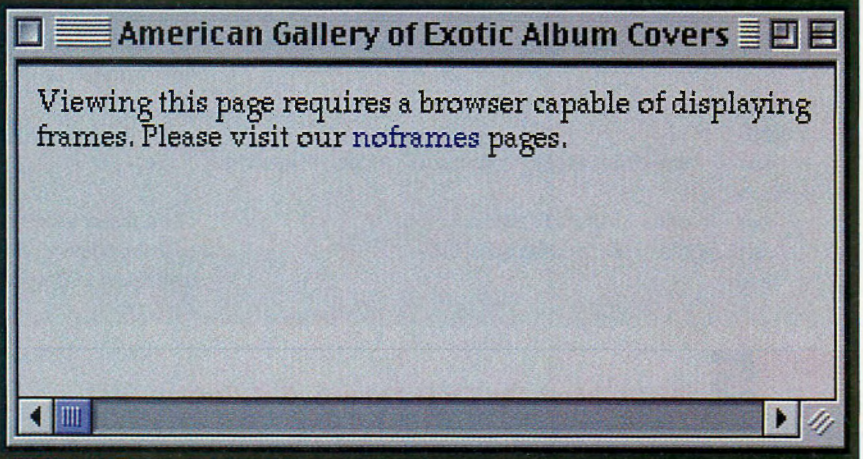
Joseph O. Holmes would love to hear your tips and questions on Webmaster topics. Send email to professor.web@pobox.com, but please remember, he can't personally reply to every message.

The No-frames Alternative for Regular Frames

We have one more, very important detail to pass along that applies to regular frames—the kind we covered in January and February. As with nearly all Web technologies, there still are many older browsers out there that can't read frames of any kind. There also are plenty of new browsers out there with frames simply turned off in the preferences. And there are browsers that are aware of frames and can read the tags but can't display them.

The <noframes> tag (and its closing counterpart, </noframes>) was created for those browsers. It cordons off a section of content that is displayed to only the no-frames crowd and ignored by frames-reading browsers. You do want to include a no-frames section in any frameset document, if only to display the message "This page requires a frames-capable browser." Of course, it's even more polite to set up a separate set of pages that don't require frames at all, linked to a no-frames section reading, "For browsers that cannot display frames, please use this alternative page."

The <noframes> tags belong inside the outermost <frameset> tags but outside any nested <frameset> tags. Between the <noframes> tags you can put any normal HTML content, including the <body> tags that are otherwise forbidden in a frameset document:



HERE'S WHAT YOUR FRAMES-IMPAIRED FRIENDS will see on their screen.

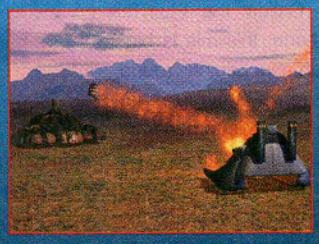
```
<html>
 <head>
  <title>The American Gallery of
Exotic Album Covers</title>
  <base target="_top">
 </head>
  <frameset rows="70,*"
frameborder="no">
  <frame src="title.html"
name="title_frame" scrolling="no"
noresize>
  <frameset cols="35%,65%">
   <frame src="toc.html"
name="toc_frame" scrolling="no"
noresize">
   <frame src="gallery_pages/
blastoff.html" name="album_frame"
scrolling="yes">
  </frameset>
 <noframes>
  <p>
Viewing this page requires a browser
capable of displaying frames.
Please visit our <A HREF=
"noframes.html">noframes</A> pages.
  </p>
 </noframes>
 </frameset>
</html>
```

By using the <noframes> tag, you'll be doing a great and helpful service for all those Web surfers out there who, for whatever reason, can't view frames. Be nice to them and they'll come back to visit you.

ONE PLANET. ONE CHANCE. TAKE IT BEFORE THEY DO.

DEADLOCK™

PLANETARY CONQUEST



SIX RACES COLONIZE A VIRGIN PLANET. ONLY ONE WILL SURVIVE. BUILD YOUR PROVINCE'S STRUCTURES. CONDUCT RESEARCH TO ADVANCE YOUR RACE. DEVISE THE PERFECT STRATEGY OF DIPLOMACY, INTIMIDATION AND WARFARE TO ENSURE YOUR SURVIVAL. PLAY AGAINST THE COMPUTER OR A LIVE OPPONENT IN THIS INNOVATIVE TURN-BASED STRATEGY GAME.

"Absorbing Gameplay" -Next Generation

"Deep, rich...one of the best conquer-the-planet strategy games in years. Editor's Choice" -PC Gamer

"Sim City on Steroids" -Computer Life

★★★★

"...richly developed backgrounds of the alien races and the thoroughly refined technology give this game a personality all its own." -Computer Gaming World

800-229-2714

Call for a free catalog or visit our website at www.wizworks.com

ACCOLADE™

MacSoft®

An Affiliate of GT Interactive Software

2300 Berkshire Lane, Plymouth, MN 55441 612.509.7600

Deadlock is a trademark of Accolade, Inc. Apple, Macintosh, and MacOS are registered trademarks of Apple Computer, Inc. All other product names are of their respective owners. Published under license by Accolade, Inc. ©1997 Accolade, Inc. All rights reserved.

how to

know it all about sound

Record sound, capture sound, use sound! We tell you how to do it all!

FIND THE SHAREWARE mentioned on The Disc.

One of the most powerful and overlooked features of the Mac OS and Macintosh computers is the ability to process sound. Since its beginning, Apple has recognized the role of sound in creating a true all-around computing experience. It began with the Apple II series, particularly the Apple IIGS (the GS stood for graphics and sound). To truly appreciate how ahead of the game Apple was at the time, just take a look at what the IBM compatibles had for sound at the same time—basically nothing. They were limited to artificial beeps and unrealistic synthesized noises. On the Mac there were already cool system sounds like "droplet" (thanks Tom, Mac users are forever in your debt) and "sosumi" (so sue me!). But system sounds were only a drop in the bucket, the Mac OS included the ability to record and play back real sounds—and without any extra hardware. For PC users to hear sounds, they had to buy an expensive sound card. Even to this day, PCs must have a sound card installed to play sound.

This month we'll take a look at some of the cool things that you can do with sound on a Macintosh. And most of these things can be done for free since every Mac comes with the majority of tools you'll need. Most importantly, no sound is card required.

—Buz Zoller

Hot Tip

Here's something nifty you can do once you record your sounds. You can cut and paste sounds together into MoviePlayer so that you can edit them. To select just a portion of the movie, hold down the Shift key while you drag the controller bar. Paste a series of snippets together and make a single movie!

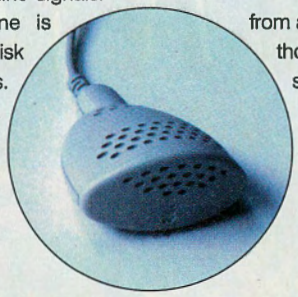
Getting Sound Into Your Mac

There are two ways to bring sound into your Mac. The most versatile way is to use the sound-in port. Located on the back of the Mac (it has the icon that looks like a microphone), it is capable of importing 16-bit stereo sound. There has been confusion concerning what kind of audio signal it accepts.

There are two types of signals Apple has used over the years: a mic-level signal and a line-level signal. Mic-level signals are fairly weak and require circuitry in the Mac to amplify them. Line-level signals are stronger and do *not* require amplification circuitry in the Mac. Line-level is the signal that home stereos use to accept the signal from a CD or cassette player.

Older Macs have the amplification circuitry needed for mic-level signals while newer Macs accept only a line-level signal. If you have a Power Mac, a PowerPC-based Performa, or an AV Macintosh (660AV or 840AV) then your computer accepts a line-level signal. Any other Macintosh accepts a mic-level signal.

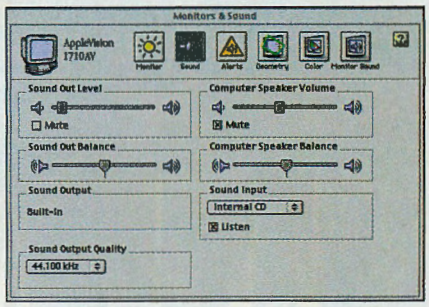
Apple created two different microphones to work with these two types of line signals. Apple's mic-level microphone is shaped like a small, round disk and it works only on older Macs. More recently, Apple created a mic that generates a line-level signal. Called the PlainTalk Microphone, this mic is bigger than the original round one and is triangular in shape. For a mic to generate a line-level signal, it has to be powered. The power boosts the signal and creates the proper strength for line level. Most line-level mics are powered by a battery, but Apple's PlainTalk Microphone gets its power from the Mac. Newer Macs dispense this power via the microphone plug. The PlainTalk Microphone has a longer plug than the standard 1/8-inch phono plug. The extra length allows power to go back to the mic, thus boosting the signal to a line level. The PlainTalk Microphone does not work on older Macs.



APPLE'S TRIANGULAR-SHAPED PLAINTALK Microphone creates a strong *line-level* signal.

If you have an older Apple mic or even a new mic that puts out only a mic-level signal, there are ways to use it to get sound into your Mac. The easiest way is to use your home stereo as a preamp. If your stereo has a mic input, plug your mic into the stereo and then from the audio out (NOT the speaker out) send the signal to your Mac. You may need an inexpensive RCA to 1/8-inch phono plug adapter from Radio Shack. You can also get a decent preamp or audio mixer for less than $100.

Since newer Macs require a line-level signal to record sound, they can get audio directly from a CD or cassette player because those devices output a line-level signal. This is a great way to get cool sound samples from a cassette, the radio, or even that old record player in the closet. Don't forget about copyright laws—you can use someone else's sound for your personal use, not for commercial use!



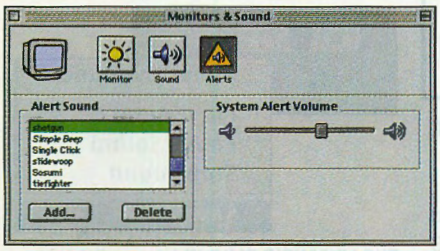
TO RECORD DIRECTLY from an audio CD in your Mac, just choose Internal CD.

You can also import sound directly from an audio CD by using your Mac's built-in CD-ROM drive. Simply set the sound input in the Sound or Monitors & Sound control panel to Internal CD. Then, any sound recording will use the sounds that are playing from the CD. If you use FWB's CD-ROM Toolkit as your CD-ROM driver software, the CDT Remote application can pull audio directly off an audio CD in AIFF format.

Some Macs have a third audio input option, the AV connector. The jacks for the AV connectors are the standard RCA jacks that are used on home stereo equipment.

Recording the Sound

Once you have a sound source, how do you get your Mac to actually record? Sound pros use many high-end software products, such as Macromedia's SoundEdit 16 to capture and edit audio. However, there is a fantastic $15 shareware program by Alberto Ricci



RECORDING AN ALERT SOUND is a heck of a lot of fun. Click Add... and then click record. *Voilà!*

called SoundEffects (http://www.riccisoft.com/soundeffects). With this application you can add cool robotic effects to your sounds, as well as lots more. But even less expensive than that is with the Mac OS itself. The Mac OS has several built-in software options for recording audio. The easiest method is to use the Monitors & Sound or Sound control panel to record an alert sound.

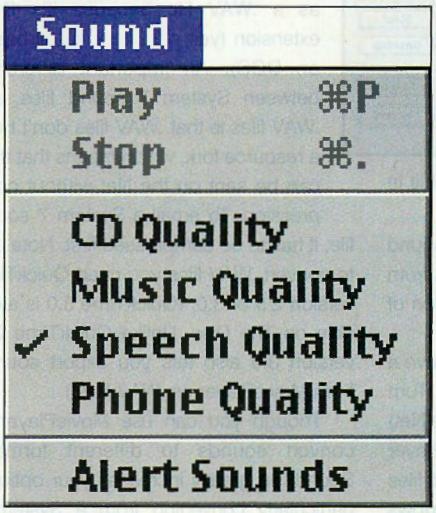
Recording is as simple as clicking Add... and then clicking the record button. (You are, however, limited to just 10 seconds of recording time). The Mac places the recorded sound file inside the System file, which is in the System Folder. To move the sound file elsewhere, simply open the System file and drag the sound file to another location on your hard drive. Though creating an alert sound is pretty cool, what if you need more than 10 seconds of sound?

BELIEVE IT OR NOT, you can use SimpleText to record sound into a text document.

Another way to input sound is to use SimpleText. That's right, SimpleText. SimpleText is the general-purpose word/text processing program that comes on every Macintosh. It is capable of recording sound into a text document. Create a new document in SimpleText and then select Record... from the Sound menu.

You'll notice that you are limited to 25 seconds of recording time. When done, you'll have a document that you can stuff and email to friends, and they can hear it by opening the document and selecting Play from SimpleText's sound menu. The limitation is that the sound is part of a SimpleText document. The only way to extract the sound is to use ResEdit or a sound utility from the Net such as SoundApp. (Find SoundApp on The Disc. There are loads of sound utilities due to Apple's tight integration of sound into the System software. Check out the sound directory at Info-Mac, ftp://mirror.apple.com/mirrors/info-mac/_Graphic_%26_Sound_Tool/_Sound.

The most useful way to record sound is to use SimpleSound. This application has come as part of the operating system since System 7.5.2, and is usually located in the Apple Menu. If you don't have it, you can download it from Apple's Web site http://swupdates.info.apple.com/usalpha.html. It is a versatile utility that

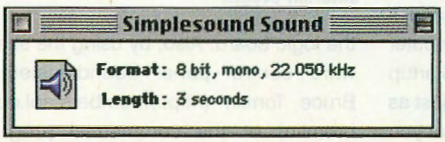


WHEN RECORDING, you can pick the quality of sound you want from low (phone) to high (CD).

actually gives you some sound-quality control. Choose from five different compression methods which yield different levels of audio quality.

To record audio, select New... from the File menu. This lets you record longer sound selections—up to as many as four hours if you select Phone Quality from the Sound menu, or as few as five minutes if you choose CD Quality. Note that audio uses lots of hard drive space.

One of the less-than-desirable features of SimpleSound is that it saves the sounds in a proprietary format. Double-click a SimpleSound document to launch SimpleSound. The audio plays when you double-click the icon in the SimpleSound window. Note: there are ways to turn this SimpleSound document into another file format.



SIMPLESOUND IS GREAT except for one thing—it saves sounds in a proprietary format.

5 Other Great Tips

how to

1. Use a Zip drive to make a bootable Zip disk (just copy the System Folder from a Disk Tools disk or your System CD) and put all of your favorite disk utilities on it. Set it as your Startup Disk and then restart. You can now run any disk utilities from the Zip.

2. Rebuild the desktop on a floppy disk (they have a separate desktop file) by holding down Command-Option while inserting the disk. This works for Zip and Jaz disks as well.

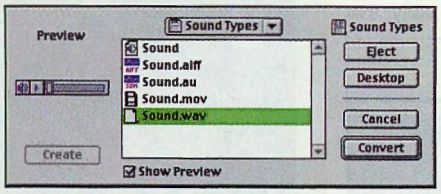
3. Speaking of floppy disks, try holding down Command-Option-TAB when inserting a disk. A dialog box will ask you if you want to erase the disk. This also works for Zip and Jaz disks.

4. Want to try the BeOS, but don't have drive space or don't feel like partitioning your hard drive? Install it on a Zip disk. The BeOS installer will format the disk for you, just make sure that it's in the drive when you run the BeOS Launcher. For more information about the BeOS, check out Be's Web site at http://www.be.com.

5. If you have a QuickCam or an AV Mac and a camcorder, use the utility, Timed Video Grabber, by Allon Stern to take a picture at a defined interval and save it as a JPEG file. This is great for a truly live Web page or just a time lapse take of what goes on during the day. You can get it at http://www.avernus.com/~allon/tvg.html.

All About File Types

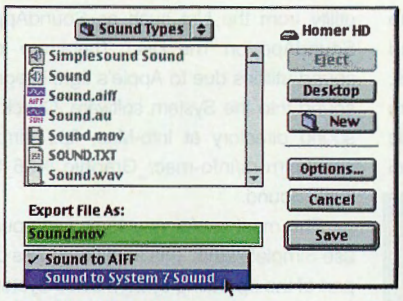
Once you have sound recorded, you have to decide what file format you want to use. The most common Mac sound file format is System 7 sound file, which is the file format for alert sounds. This format allows a file to be played in the finder by simply double-clicking the icon. Most file formats can be turned into System 7 sound files by using MoviePlayer. To convert a file into a System 7 sound format, open MoviePlayer. (MoviePlayer is part of QuickTime and is included with all current Macs). Select Open... from the file menu.



USE MOVIEPLAYER to convert a sound file to System 7 Sound format.

Click the Convert button and the sound opens as a movie. Now select Export.. from the file menu. This gives you the option of saving the file as a System 7 sound.

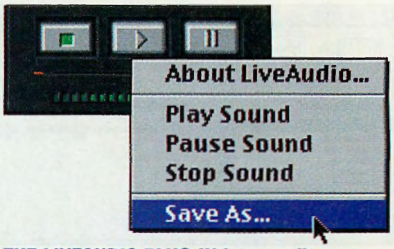
Once you save the file, you will have a double-clickable System 7 sound file. Turn a .WAV file (from a PC user or from the Net) into a System 7 sound file with MoviePlayer using this method. System 7 sound files are great for Mac users, but Windows users can't use them. Windows uses a file format called a Wave file, usually noted as a .WAV file because it's DOS extension (yes, Windows is still based on DOS). An important difference between System 7 sound files and .WAV files is that .WAV files don't have a resource fork, which means that they can be sent on the Net without compression. To email a System 7 sound file, it has to be compressed first. Note that to convert .WAV files you need QuickTime version 2.5 or 3.0. (QuickTime 3.0 is available on The Disc. Unlike QuickTime 2.5, version 3.0 also lets you export sounds from MoviePlayer as .WAV files.)



TO SAVE THE SOUND in a new format, you'll first need to Export it.

Though you can use MoviePlayer to convert sounds to different formats, SoundApp greatly increases your options, particularly converting from a System 7 sound file to a Windows .WAV file. You can find SoundApp on The Disc.

Another cool way to listen to .WAV and .AU sound files is to use your Internet browser. If you have the LiveAudio plug-in, simply drag the .WAV file into the browser window.



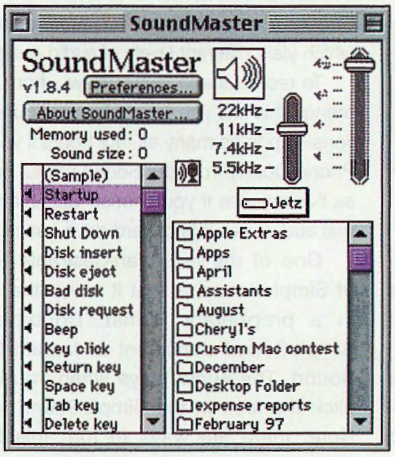
THE LIVEAUDIO PLUG-IN lets you listen to sound files in your browser.

If you click on a .WAV file at a Web site and it brings up this console, you can save it to your hard drive (as a .WAV file) by clicking on it and selecting Save As....

MoviePlayer also can turn sound files into a QuickTime movie, which is actually just a movie with only a soundtrack and no video. It is also worth noting that a flattened QuickTime movie with only a sound track is actually smaller than the same .WAV file. A flattened QuickTime movie (made by selecting Playable on non-Apple computers and Self-contained in MoviePlayer's Save As... dialog), like a .WAV file, does not have a resource fork and can be sent or posted on the Net without compression.

What to Do With It?

Once you've created your sound masterpiece or sampled your favorite snippet, what can you do with it? You can use it with any multimedia authoring software, such as Adobe Premiere or Director, or even Claris' HyperCard. If multimedia isn't your cup of tea, there are some nifty things you can do with sounds just for fun. To add them to your alert sounds, just turn the file into a System 7 sound file and drag and drop it onto the closed System Folder, which will automatically put it into the System file. Then just use either SimpleSound or the Monitors & Sound control panel to activate it. Or, place it the sound file in your Shutdown Items folder, which is in your System Folder. When you select Shutdown from the Special menu, it will play the sound before your computer turns off. Or even put it in your Startup Items folder and the sound will play just as the Finder comes up. Remember that you can't change the actual startup chime since it is stored in the Mac's ROM chip on the logic board. Also, by using the shareware control panel SoundMaster by Bruce Tomlin (http://members.aol.com/btomlin) or the commercial program Kaboom from Nova Development (818-591-9600; http://www.novadevcorp.com) you can select a sound for different events within the operating system, such as opening a window or emptying the trash.



USE SOUNDMASTER to select sounds for different events.

If you save your sound as a self-contained, playable on non-Apple computers-QuickTime movie you can put it on your Web page. Claris Home Page and Adobe PageMill both let you simply drag and drop a movie file on to the Web page and they do the HTML coding for you. Set it to auto-play, make the controller false, and the sound will play when the page loads—and no one will know where it came from. Or better yet, record a little message, save it as a QuickTime movie and email it to a friend with a birthday greeting. Apple has released QuickTime for Windows, so even your PC buddies can hear your creations.

Don't let your Mac waste away in silence. Go out there and create!

Buz Zoller (flohead@bga.com) is currently a Mac Manager for a school district in Texas.

ARNOLD PALMER

CONGRESSIONAL

VALDERRAMA

VALHALLA

TORREY PINES

DORADO BEACH

CASTLE PINES

PELICAN HILL

BAY HILL

PINEHURST

BOUNTIFUL

COURSE LIBRARY I

COURSE LIBRARY II

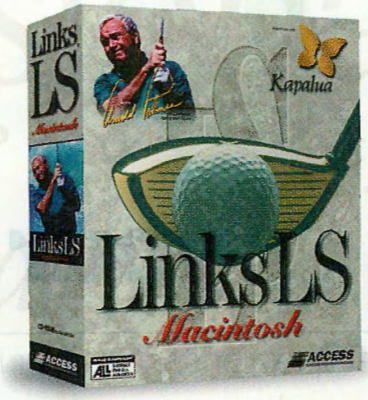
COURSE LIBRARY III

COURSE LIBRARY IV

DAVIS LOVE III

KAPALUA

MAUNA KEA



LINKS IS GOLF

When you want the REAL feeling of golf for your Macintosh, play with Arnold Palmer at the most prestigious courses and resorts on the planet! 16.7 million colors will immerse you in the experience that is Links. You'll marvel as the details of the game of golf come through at the most dreamed about courses in the world. For information about this product, call 1-800-800-4880 or visit our web site at www.AccessSoftware.com

Actual screen captures using Links LS Macintosh

BANFF SPRINGS

HARBOUR TOWN

FIRESTONE

LATROBE

BIGHORN

Non-Performa Power PC required
Links LS Macintosh package includes three courses. All other courses and Tour Players sold seperately
Phone Toll-Free 800.800.4880 • Fax 801.359.2968 Website–http://www.AccessSoftware.com

ACCESS SOFTWARE INCORPORATED

ask us your questions

We answer your technical questions, no matter how simple or complex.

Q I'm trying to reduce the amount of memory consumed by the Mac OS. Can I free up any by moving some control panels out of the System Folder?

A Sure, but don't expect to recover much RAM. Many control panels simply provide a tidy user interface for changing the options of their related extensions; they don't patch the operating system themselves. As such, even when they're in the Control Panels folder, they don't slow the startup process nor set aside any memory for their own use. Only when you open this kind of control panel does it use any memory, and that's relinquished the moment you close the control panel.

According to Jeffrey Robbin, programmer of Casady & Greene's tremendously useful Conflict Catcher (800-359-4920 or 408-484-9228, http://www.casadyg.com), only control panels containing INIT resources actually grab hold of system memory at startup. Essentially, these control panels have built-in extensions. To see how much memory each requires, in Conflict Catcher choose "by Folder" from the "Listed by" pop-up menu, then choose Memory Use from the right-most pop-up menu. If a control panel has an INIT resource, the amount of system memory consumed shows up in the second column. Usually, control panels require just a few kilobytes of memory, which is hardly worth worrying about, but to maximize memory and to speed startup times, remove these files from the System Folder. Control panels with N/A listed in the second column lack INIT resources. Even though they may appear in the Control Panels folder, they don't load at startup and don't use any memory, so you might as well leave them alone.

Keep in mind that even though a control panel doesn't appear to consume much memory, it may offer RAM-hungry options. For example, the Memory control panel uses less than 1K of memory, but the Disk Cache and RAM Disk options contained therein can gobble many megabytes when enabled. Likewise, placing an image in the Finder's background using the Desktop Pictures control panel can require a lot more memory than you might be led to believe, because the file is an application.

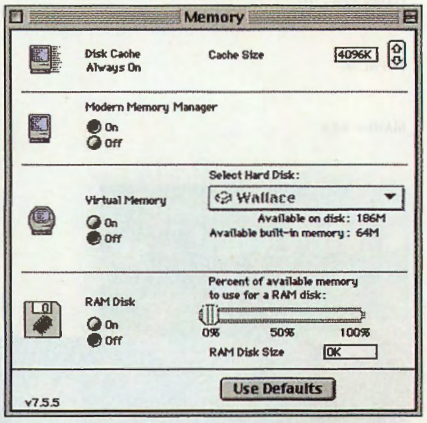
FIND APPDISK, PrintChoice, and PlainTalk on The Disc.

Mac OS 8 Control Panels That Don't Consume System Memory

- Appearance
- AppleTalk
- ColorSync System Profile
- DialAssist
- Editor Setup
- Energy Saver
- Extensions Manager
- Infrared
- Iomega Drive Options
- Keyboard
- Launcher
- Location Manager
- MacLinkPlus Setup
- Map
- Memory
- Modem
- Monitors & Sound
- Numbers
- OpenDoc Setup
- PowerBook Setup
- PPP
- QuickTime Settings
- Startup Disk
- TCP/IP
- TelePort
- Text
- Token Ring
- Trackpad
- Web Sharing

Q What is the Modern Memory Manager in the Memory control panel? Should I turn it on or off?

A All Macs have some memory management code burned into ROM, but Power Macs running System 7.1.1 to 7.5.3 have a Modern Memory Manager option in the Memory control panel that allows them to use a completely rewritten memory manager instead of the ROM code. The new memory manager performs better than the old one, both because it's native PowerPC code and because the heap management algorithms have been significantly improved. Apple's engineers estimate that activating Modern Memory Manager yields an average performance increase of about 20 to 30 percent, although that number can be as high as 200 percent with some applications. Therefore, the only reason to turn off Modern Memory Manager is if you're experiencing crashes and suspect compatibility issues. Most programs were rewritten long ago for full compatibility with Modern Memory Manager, so that shouldn't be a problem for anyone who's using current software. I hasten to recommend, however, that anyone with a Power Mac should forget about Modern Memory Manager altogether and just upgrade to Mac OS 8 for the many bug fixes, new features, and completely native Finder.



LEAVE MODERN MEMORY MANAGER turned on unless your Power Mac is crashing and you suspect incompatibility with older software.

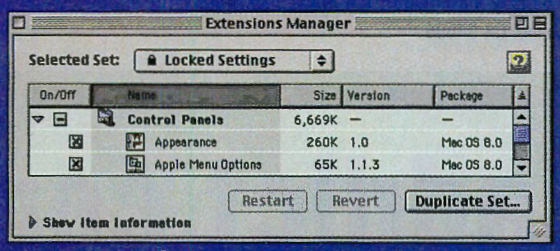
Q I have a Power Mac 6500/300 with what appears to be a remote control sensor on the front. Where can I get a remote control, and how much will it cost?

A The infrared receiver is for use with only the remote control that's part of the Apple TV/FM Radio System (part number M4586LL/A), an optional card that lets you watch TV in a window or listen to the radio while you work on your Mac. With this card installed, you even can capture images, video clips, and sound from the airwaves. The Apple

TV/FM Radio System is available via mail order for around $150 and can be installed in any Mac with a video-in slot and a port for an internal TV tuner card. If your Mac lacks a video-in slot, consider instead the TurboTV from IXMICRO (888-467-8282 or 408-369-8282, http://www.ixmicro.com) or the Xclaim TV card from ATI Technologies (905-882-2600, http://www.atitech.com). These PCI cards don't have an FM radio or remote control, but they let you view and capture TV signals from an antenna or cable.

Securing Extensions Manager Sets

Frustrated by how the Extensions Manager control panel automatically adds new extensions to custom sets, reader Jon Sytsma came up with a simple solution: Launch ResEdit and open an editable settings file (they're located within the Extensions Manager Preferences folder inside the Preferences folder in the System Folder). Choose Get Info from the File menu, and change the type from ESET to RSET (this makes it a read-only settings file). Close the dialog box, and save your changes. Now when you choose this set with the Extensions Manager, it appears with a little lock icon next to its name, indicating that you can't modify this set without first creating a duplicate.

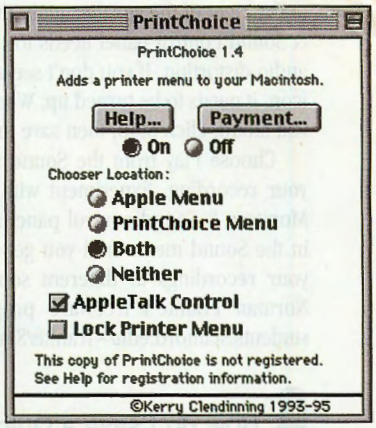


LOCKED STARTUP SETS ARE EASY to create with ResEdit.

Q I have a modem and two serial printers. How can I make switching between the two printers simpler than unplugging the cable from one and plugging it into the other, then enabling/disabling AppleTalk (I don't have a network, but one of my printers requires AppleTalk to be enabled), and then changing the printer in the Chooser?

A There are several approaches you can take. The cheapest is to buy an A/B serial switch. Both printers plug into this device, which, in turn, plugs into the printer port. By allowing you to select printers with the turn of a knob, it eliminates the hassle of physically switching cables. You still need to tell the Mac which printer is active, however. To simplify matters, use Kerry Clendinning's PrintChoice. This nifty shareware utility allows you to avoid the Chooser altogether by choosing from a small printer menu that's always available in the menu bar. You can specify even the appropriate AppleTalk setting for each printer. Anyone who uses more than one printer should have PrintChoice. It's that good.

The main drawback to the A/B serial switch solution is that only one printer is available at a time. Ideally, you'd like them both active and available without having to flip a switch or turn a knob. The way to do that is to add serial ports to your Mac. Although there are several vendors that sell serial port cards, I use Keyspan's SX Serial Card (510-222-0131, http://www.keyspan.com) and find it effective. This card plugs into the PCI bus and adds either two or four serial ports ($229 or $329, respectively), depending on the model, that are functionally identical to the Mac's original serial ports. The only caveat is that devices plugged into the SX Serial Card must be compatible with Apple's Communications Toolbox. Many serial printers and digital cameras aren't Comm Toolbox savvy, but the majority of modems, ISDN terminal adapters, graphics tablets, label printers, and personal digital assistants work just fine. By plugging your incompatible devices into the Mac's original ports and your Comm Toolbox-savvy devices into the SX Serial Card, you usually can obtain a workable configuration no matter what peripherals you own.



AVOID THE CHOOSER with PrintChoice's menu of available output devices.

Q Can I run Mac OS 8 on my Performa with a 33MHz 68LC040 and 20MB of RAM?

A Excluding 68030 systems that have been upgraded, Mac OS 8 will run on any Mac with at least 12MB of RAM and either a PowerPC or 68040 chip. This includes the 68LC040, which lacks an integrated hardware math coprocessor (also called an FPU, or floating-point unit). I've tested Mac OS 8 on '040-based Macs and found it acceptably fast, but I seriously recommend at least 32MB of memory for anyone considering this new operating system. If you're unsure about the amount of RAM or type of processor in your Mac, run Apple System Profiler (part of the Mac OS).

Q Is there any way to have my Mac record a sentence being read using the voices available in SimpleText? I want to make a few outgoing answering-machine messages with both sounds and voices.

A Start by downloading the latest PlainTalk software from the Apple Speech home page at http://speech.apple.com/speech. Once your Mac has the appropriate Text-To-Speech software installed, here's how to get your Mac to record anything it speaks. Plug an audio patch cable into the sound-input (microphone) and -output (headphones/speakers) ports of your Mac. (Audio patch cables are available from Radio Shack and stereo stores such as The Good Guys.) Now open the Monitors & Sound control panel, and choose Line In or Microphone (not InternalMic) from the Sound Recording Input pop-up menu.

Launch SimpleSound and SimpleText. Enter the desired text of your answering machine message in a new SimpleText document. Place a countdown sequence of "5, 4, 3, 2, 1, 0" before the beginning of the text to give you time to switch applications and as a cue that tells you when to begin recording. Press Command-J to select everything, and begin speaking. Quickly switch to SimpleSound, and press Command-N to open the recording window. When the

countdown finishes, click Record. If at any time you see a vertical line to the right of the speaker icon, the Sound Out Level in the Monitors & Sound control panel needs to be turned down a notch to prevent audio distortion. If you don't see anything coming out of the speaker icon, it needs to be turned up. When SimpleText finishes reading your text aloud, click Stop, then save the recording. That's all.

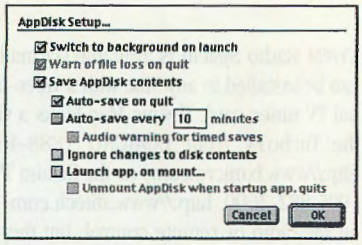
Choose Play from the Sound menu in SimpleSound to listen to your recording. Experiment with the Sound Output Quality in the Monitors & Sound control panel and SimpleSound's quality settings in the Sound menu until you get exactly what you want. To convert your recordings to different sound formats, I recommend using Norman Franke's freeware program SoundApp (http://www-cs-students.stanford.edu/~franke/SoundApp).

Q How do I save a QuickTime movie after watching it in Netscape Navigator?

A After downloading the entire movie, click inside the movie's window and hold down the mouse button until a pop-up menu appears. From this menu, choose Save Movie As... to open a standard directory dialog box in which you specify the name and disk location for the file. You then can open the resulting QuickTime file with Apple's MoviePlayer.

Q Is there a way to keep my RAM Disk from getting erased every time I shut down?

A There's no provision for automatically saving the contents of the RAM Disk created by the Memory control panel. However, you can do this easily with AppDisk, a shareware program by Mark Adams. Another benefit of AppDisk is that it uses application memory rather than system memory, so you can get that memory back by simply quitting AppDisk rather than restarting.



APPDISK SAVES the contents of a RAM disk, potentially a data-saving feature.

Q I recently connected an old, 14-inch monitor to my Mac's internal video port to augment a 17-inch monitor plugged into a video card. Having multiple monitors is a blast. However, the large monitor developed a nervous twitch. It's hard to describe, but the overall effect makes me kind of seasick. Disconnecting the small monitor makes things normal again, and neither monitor shows any sign of problems on its own.

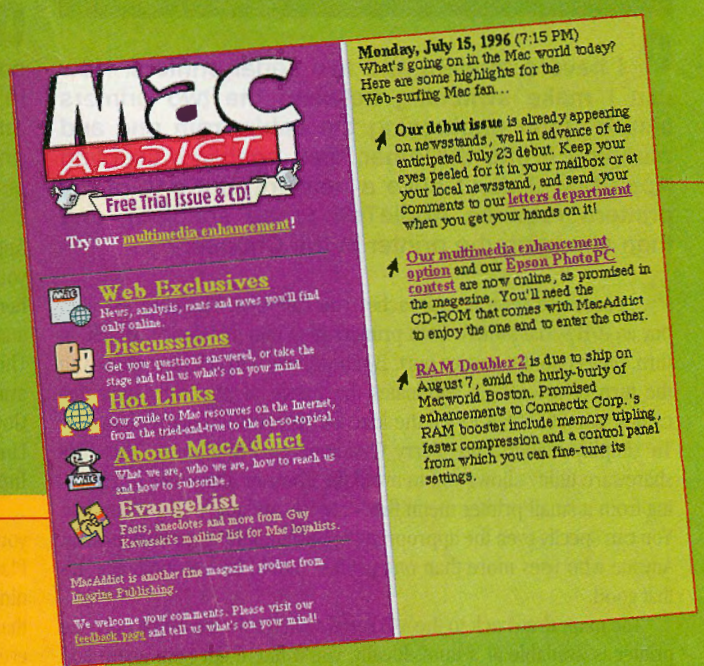
A The magnetic fields generated by the monitors are interfering with one another, causing the screen images to jitter. Moving the monitors farther apart should decrease or eliminate any distortion.

Owen W. Linzmayer (askus@macaddict.com, http://www.netcom.com/~owenink) is a San Francisco-based freelance writer and the author of *The Mac Bathroom Reader.* Please submit technical questions or helpful tips directly via email or c/o *MacAddict,* 150 North Hill Drive, Suite 40, Brisbane, CA 94005.

http://www.macaddict.com

Get *Addicted.*

- links to other key Mac sources
- news and information
- chat forums
- contests



Mac ADDICT

imagine
a new way of publishing

Out of Your Mind!

Introducing Nexus GA from ATI

From your brain to the big screen and the printed page faster than you can change your mind – ATI's Nexus GA will dramatically improve the graphics capabilities of your Macintosh computer. Specifically designed for graphics professionals and content creators, ATI Nexus GA offers high-performance 2D and 3D graphics in one affordable, easy-to-install board.

Nexus GA offers no-compromise 2D graphic performance with true color in all the modes you demand up to 1920x1080. Work better and faster in all your favorite applications like PhotoShop, and Infini-D, with 8MB of WRAM memory upgradeable to 16MB.

Plus, with Nexus GA's 3D functionality and QuickDraw 3D™ support you can add 3D elements to any of your design and multimedia projects. Nexus GA will take your content creation to new heights with a full suite of 3D tools and workstation-class performance.

And because Nexus GA is from ATI, makers of award-winning graphics accelerators for Macintosh computers, you can rest easy that Nexus GA will work seamlessly with your applications. Nexus GA – fastest, high resolution true color performance – to choose anything else you'd have to be out of your mind.

© Copyright ATI Technologies Inc. 1997. ATI, 3D RAGE PRO, and NEXUS are trademarks, or registered trademarks of ATI Technologies Inc. All other company and/or product names are trademarks and/or registered trademarks of their respective manufacturers. 'MacBench 4.0 Hi Res Publishing Mixes Tested on a PowerMac 9600/200 32MB. All Boards had 8MB. Test Mode: 1280x1024x75 Hz @32bpp.Tested using Driver Versions: ATI RAGE PRO 3.0 / IXMicro TwinTurbo 4.0.2 / Matrox Millennium 2.10. Features and specifications are subject to change without notice.

COMPUTER City 1-800-The City

CDW 1-800-363-4239

MICRO CENTER

MacWAREHOUSE 1-800-255-6227

Now You See It.™

www.atitech.com/macad

ATI®

powerplay

Racing excitement, be a better Myth captain, and Freeverse's latest wacky game.

FIND A DEMO of Myth: The Fallen Lords, plus a shareware copy of Burning Monkey Solitaire on The Disc.

FIND LINKS to more Myth strategy sites on the Web site. Challenge *MacAddict* to a game at http://www.macaddict.com/clan.

Preview

Racing Days R

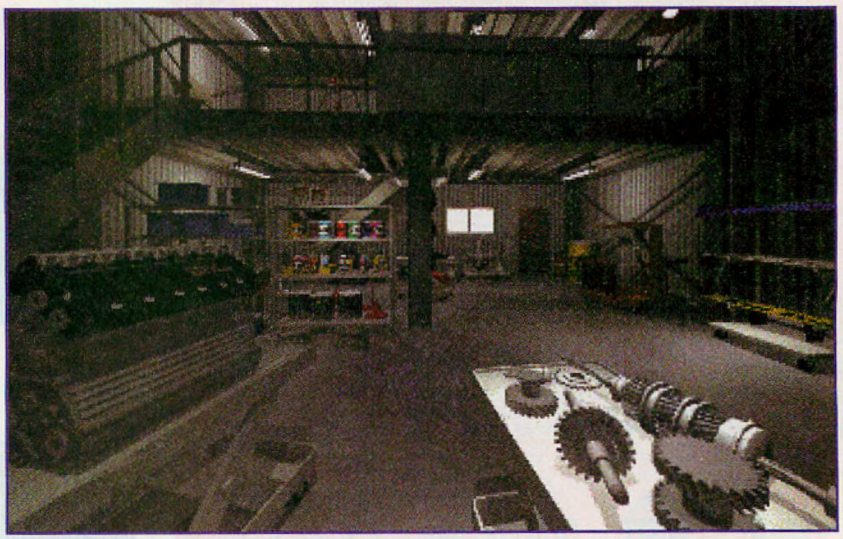
COMPANY: Feral Entertainment
CONTACT: 011-44-1225-448069 or 011-44-1225-446534 (fax), http://www.feral.co.uk
PRICE: $50 (SRP)

Well before Bandai Digital Entertainment releases Racing Days in the United States (previewed Dec/97, p54), Feral Entertainment is set to release its sequel, Racing Days R. What's the deal? Racing Days and Racing Days R are the brainchildren of Japanese developer Kitt Peak (http://www.kittpeak.co.jp). Takumi Abe, the lead programmer on Maxis' SimTower, conceived and developed most of the game. Bandai received the rights to publish the original version but not the upgraded version. Feral Entertainment obtained the European rights to the sequel, did a wonderful job localizing the program to English, and now is working to distribute the game in the States. While it looks for a distributor, you can buy the game directly from the company.

Racing Days R is both a fun driving game and a super simulator. At the get-go, you see a clean, well-laid-out interface. As the mouse hovers above an interface element, explanatory text scrolls by in an upper right-hand-corner window. From the main screen, you have access to all options; Virtual Garage and Car Type are the most important. Car Type selects the color and shape of your car. Virtual Garage gives you access through QuickTime VR to the innards of the car.

After you push the big R button, you get to choose from three different tracks, three different levels, and four different modes. Racing itself is very intuitive. For beginners, the game offers cues for when to brake and when to accelerate. Racing Days R is a great game that takes advantage of Macintosh technology and the PowerPC, and it's just plain fun, to boot. —*KT*

RACING IS A BEAUTIFUL experience. The 3D textures are wonderfully rendered, and you don't need an accelerator card to appreciate them. Choose from three tracks, each with amateur, pro, and ace circuits. And with four different racing modes—sprint, time, endurance, and simulation—you've got a lot of flexibility.



RACING DAYS' VIRTUAL GARAGE was built in QuickTime VR. As you improve at the game, more parts of the garage are accessible, allowing you to customize more of your car.

Strategy

Myth: The Fallen Lords

COMPANY: Bungie Software Products
CONTACT: 800-295-0060 or 312-563-6200, http://www.bungie.com
PRICE: $49.95 (SRP)

Captaining a team to success in Myth: The Fallen Lords is no piece of cake. Some online surveys conclude that a majority of people prefer *not* to captain team games. It's true that overseeing so many troops can be stressful, but there are few greater highs than leading a five-player team to victory. We'll let you in on a few secrets that led us to the imperial crown. (See, we've even got that royal "we" perfected, too!)

Be a Good Team Player

You won't be a good leader until you've been led by a good captain. Watching brilliant strategies perfectly executed is the key to becoming a master general. When your captain gives you troops, wait for him or her to tell you what to do with them: Don't just run off and attack the first band of enemy troops you encounter. Communicate with your teammates: Your captain won't always send a trow to bail you out until you yell for help. Coordinate attacks with the other players: Having stragglers reach the battle after your main body of troops has been decimated is a sure road to defeat. Special thanks to Belgarion, Stefan, Bastian, and Yeroen for demonstrating their winning strategies. (Great leaders end in *n*!)

Know thy Enemy

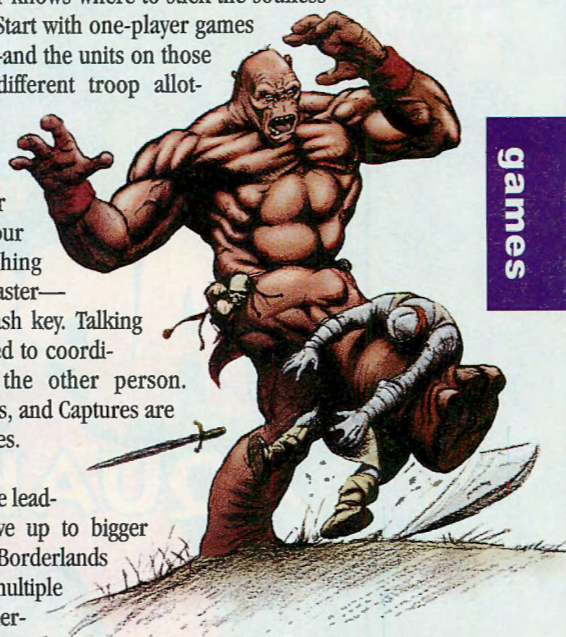
...And thy friends. Play online all the time. Get to know the good, civil players from the dorks. Good players follow the captain's orders but are able to adjust that strategy to suit changing battle conditions. Recruit these players to be your lieutenants. Play *against* the people who don't follow orders.

Know the Field

Likewise, a good player knows where to stick the soulless so they can't be attacked. Start with one-player games to examine all the maps—and the units on those maps. Experiment with different troop allotments on each map.

Start Simple

Play two-teammate games (2 x 2, 2 x 2 x 2, or 2 x 2 x 2 x 2) to hone your captaining skills. Detaching units is much easier and faster—you need only the backslash key. Talking is much simpler—you need to coordinate only yourself and the other person. Capture the Flag, Territories, and Captures are great two-player-team games.



Be Flexible

Once you're comfortable leading two-player teams, move up to bigger maps such as Creep on the Borderlands or If I Had a Trow. Learn multiple strategies for each map; otherwise, your opponents will know how to get you every time. Be sure to have a Plan B if your enemy foils Plan A. Most of all, communication is the key in huge games. With four or more players, you're better off detaching most of your units to your lieutenants and then watching and warning during the game, instead of trying to maintain an offensive attack yourself. —*Sorcha Payne*

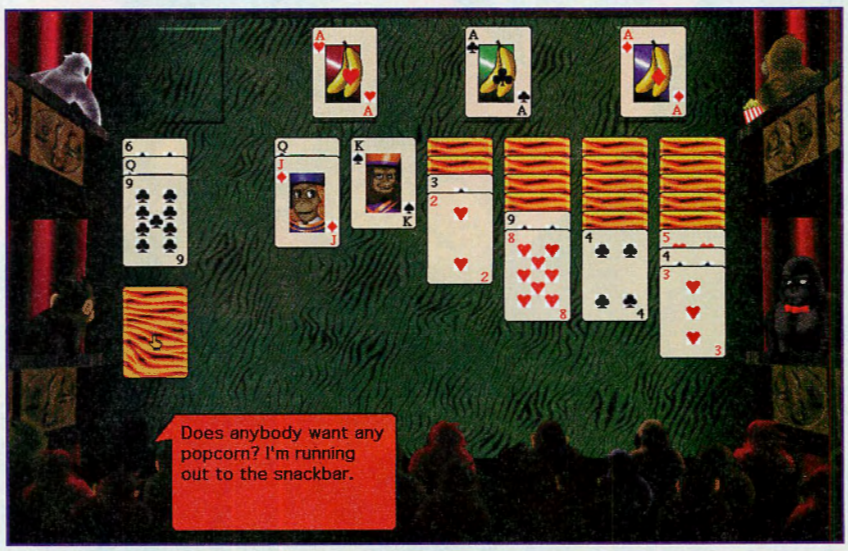
Shareware

Burning Monkey Solitaire

COMPANY: Freeverse Software
CONTACT: 212-929-3549, http://www.freeverse.com
PRICE: $14.95 shareware fee (one dollar of which will be donated to the Sierra Club)

Last month, CrossCards had us giggling. This month, Burning Monkey Solitaire has us laughing so hard our tummies hurt. Sure, Klondike is a perennial solitaire fave; it's included in almost every solitaire game pack from Semicolon Software's Solitaire Till Dawn to Delta Tao's Eric's Ultimate Solitaire CD. One stand-alone version even is scriptable! What could Freeverse possibly add to this glutted market?

Its trademark humor, of course. Burning Monkey Solitaire plays exactly as your standard solitaire game, except instead of playing on a table, you play as if you were the main attraction for a theater of monkeys. This simian crowd is much tougher than your average peanut gallery: Although the monkeys tell you how to cheat, they jeer at you if you do it too often.



ROUGH CROWD: The monkeys comment on everything you do. They get bored, too.

You can click on each of the monkeys ("oooh oooh, ahh ahh"); the ones along the sides play special effects. Jared, Butcher of Songs, has had plastic surgery or was reincarnated or something, because one of those four monkeys sings yet another Spanish ballad. You really don't want to know where the jujubes are, either. This game is way more fun than a barrel of monkeys. —*KT*

EVERY GOOD SOLITAIRE GAME has a boss button. The text above the progress bar changes over time.

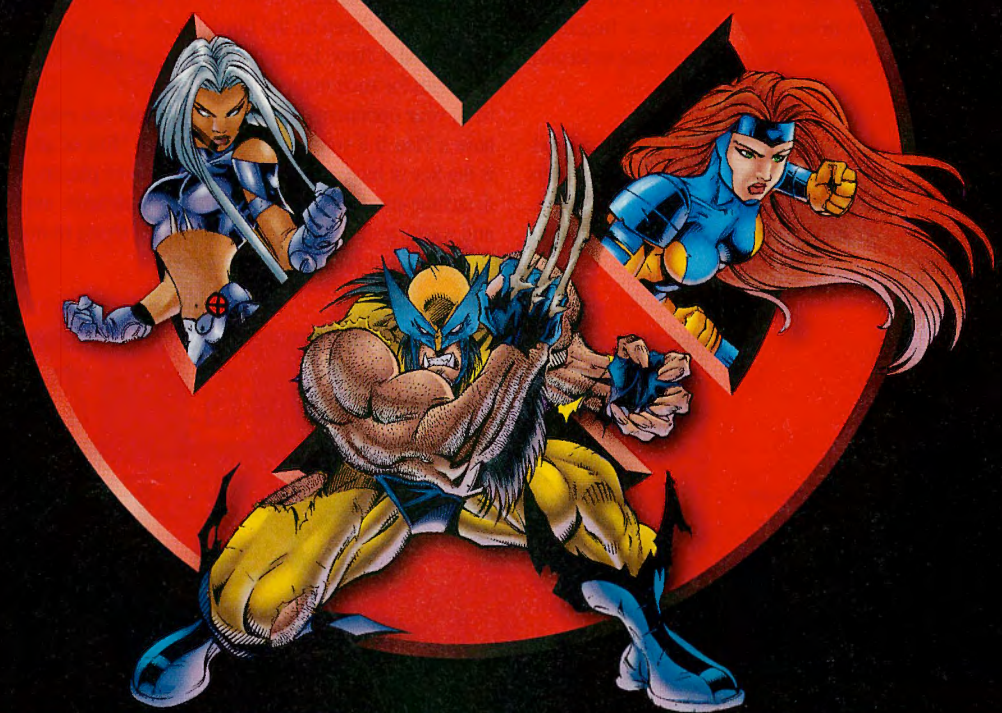
WHY "BURNING"? This menu command explains the title of the game. Take that, Jared!

MARVEL INTERACTIVE®

X-MEN®

THE RAVAGES OF APOCALYPSE™

A QUAKE® TOTAL CONVERSION



Battle Using the Full Array of Weapons, or Fight the X-Men using each Character's Unique Power

Eight New Weapons, Plus 24 X-Men Superpowers

Two Riveting Single-Player Episodes and Four Multi-Player Levels

Incredible New X-Men Graphics

THIS IS NOT THE GAME OF QUAKE® YOU ONCE KNEW.
THE X-MEN HAVE TAKEN OVER. NOW IT'S A WHOLE NEW GAME.

This product is in no way affiliated with, nor will it be supported by, Id Software, Inc.

800-229-2714
Call for a free catalog or visit our website at
www.wizworks.com

MacSoft®
An Affiliate of GT Interactive Software Corporation

©1997 Marvel Characters, Inc. All rights reserved. Marvel Interactive, X-Men, all Marvel character names and the distinctive likenesses thereof are trademarks of Marvel Characters, Inc. and are used with permission. Quake® is a registered trademark of Id Software, Inc. All rights reserved.

MAAd# 0398

Personal & Business Leasing By PFO Capital

COMPU.D International, Inc.

6741 Van Nuys Blvd., Van Nuys, CA 91405

Sales (818) 787-3282
Fax (818) 787-5555
e-mail:csales@compu-d.com

1-800-929-9333

www.compu-d.com

All prices are based on C.O.D. order & subject to prior sales & change!
* Factory refurbished with Warranty
Limited Quantity While Supply Last!

FedEx DHL Fast Worldwide Shipping

PowerMacs

4400/200 DOS 32-2GB, 12xCD	$1365
4400/200 32-2GB, CD, 256k	$1095
6500/300 64-4GB, 12xCD, Zip,33.6	$2195
6500/275 32-6GB, TV, Avid,33.6	$2395
6500/250 48-4GB, 12xCD, Zip, Office	$1895
6500/250 32-4GB, 24xCD, Zip	$1795
6500/225 32-2GB, 12xCD, 33.6	$1445

We Offer the Best Price on MEMORY.

7300/200 32-2GB, 12xCD, Kb	$1395
7300/180 16-2GB, 12xCD, Kb	$1195
7300/180 DOS 32-2GB, CD,	$1585

Convert any Mac to PC with Apple DOS Card
PC-166MHz, 16MB RAM, 2MB VRAM including WINDOWS 95 & MS DOS 6.22 $475

8600/300 32-4GB, 24xCD, Zip $2295
9600/300 64-4GB, 24xCD, Kb $2595

8600/250 32-4GB, 24xCD	$1995
8600/200 32-2GB,12xCD	$1845
9600/233 32-4GB, 12xCD	$2045
9600/200 32-4GB, 12xCD	$1995
9600/200MP 32-4GB,CD	$2295

DIMM Memory
We will beat any price including installation

Best Buy

PM. 7300/180 DOS	$1599
PM. 4400/200 DOS	$1349
PM. 4400/200 w/15"	$1449

Apple 1705 17",1280x1024 Res., .28 $485

Apple NEW SYSTEMS

G3/233 32-4GB, 24xCD, Kb.	$1795
G3/266 Desktop 32-4GB, 24xCD, Zip	$2145
G3/266 Tower 32-6GB, 24xCD, Zip	$2695
PB. G3/250 32-5GB, 20xCD, 10B-T	$4695

Free Phone with Caller ID w/Sys. Purchase over $1000

Video/Graphic Cards

radius

SuperMac Monochrome NuBus	$59
Thunder 8/1600 PCI	$179
VideoVision ML PCI	$1789

iXMICRO

Turbo TV	$79
Twin Turbo 128M4/128M8	$259/399
ix3D Ultimate Rez/ix3D Pro Rez	CALL
ix3D Mac Rocket	CALL

TRUEVISION First in Digital Video

Targa 1000 PCI	$1479
Targa 2000 PCI	$2575
Targa 2000 PCI Pro	$2895

PowerBooks

3400c/240 32-3GB, CD	$2945
3400c/200 32-2GB, CD	$2495
3400c/180 32-1.3GB, CD	$2175
2400C/180 32-1.3GB	$2195
1400c/166 16-2GB, 8xCD	$1995
1400cs/133 16-1.3, 8xCD	$1795
5300cs/100* 8-750	$999*
DUO 2300C 40-2.1GB	$1395
DUO 2300C* 20-1.1, Fax/Mdm	$1195*
DUO 230* & 5300c	$795*/Call

PB.3400c/240 MHz 48/3GB, CD $3195
PB. 3400c/200 MHz 48/2GB, CD $2495
PB. 1400c/166 MHz 48/2GB, CD $2095

Apple

Apple 3400C Lithium Battery $129

STORAGE

Zip Drive / 10 Crtrdg.	$137/99
Jaz Drive SCSI /3 Crtrdg.	$359/235
Zip+/Jaz II SCSI & Parallel	$185/599
SyQuest SyJet 1.5GB SCSI Removable	$279
Quantum Atlas 2.1GB SCSI-II	$339
Quantum Atlas 4.5/9GB SCSI	$549/869
Seagate Barracuda 4.3GB SCSI-II	$459
IBM 4.3GB SCSI-II (5 Year Warranty)	$319
PowerBook 2.1GB IDE 2.5"	$209
PowerBook 3.0 GB IDE 2.5"	$329

Printers & Scanners

Apple LaserWriters 12/640PS $945
Apple LaserWriters 16/600PS $1195
16ppm, 600dpi, 8MB, Mac & PC w/Ethernet

StyleWriter 4100/4500	$249/329

HEWLETT PACKARD Authorized Reseller & Service Center

LaserJet 4000N/4000TN	$1395/1525
LJ. 5M*/5M/5M Clr.	$1245/1395/4395
LaserJet 5SIMX /5MP	$3295/585
LaserJet 4MV/6MP/5MP*	$2295/859/499
DeskJet 1600CM/ LJ. 6MP*	$1395/795
EPSON Stylus 600/800/3000	$239/359/1665

AGFA

Arcus II	$1279
DuoScan	$3795

UMAX The Magic of Color

Scanners

UG-630 GrayScale	$89
UC-840 800 dpi	$119
UC-1200SE	$269
Astra 610S	$159
Astra 1200S	$259
PowerLook III	CALL

Genuin Apple Processor Card

(7500/7600/7300/8500/8600/9500/9600)
200/233 MHz 604e $195/295

Mac Clones

604e/233 64/4GB, 24XCD	$1595
603e/200* 32/2.5GB, CD	$695
603e/160* 16/1.5GB, CD	$545

SOFTWARE

Adobe

Photoshop 4.0.1/Illustrator 7.0	$399/279
PageMaker 6.5/Acrobat 3.0.1	$345/99
PageMill 2.0/ATM Deluxe 4.0	$89/69
StreamLine 4.0/Persuation 4.0	$99/179
After Effects 3.1/Premiere 4.2	$399/389
After Effects Production Bundle	$1395

Quark QuarkXpress 3.3/4.0 $499/709

Macromedia Freehand 7.0 $269

MetaCreations

Bryce 3D	$159
Kai's PowerTools 3.0	$99
Painter 5.0/Detailer	$269/219

Microsoft

Office 98 for Mac	$399
Excel /Word 6.01	$159/149

Graphic Tablets

WACOM

ArtPad II 4x5/6x8/12x12	$119/259/369
ArtZ II 6x8*/12x12*	$195/289
ArtZ II 12x18*/12x18* Electrostatic	$389/439

PC's

Desktops & Laptops in Stock ! Call for Best Prices!

IBM ThinkPad

365X P133, 8/1.08GB, DSTN 11.3"	$1249
560 P150MMX, 16/2.1GB, DSTN 11.3"	$1695
770 P233MMX, 32/5GB, TFT 14.1"	$5895

TOSHIBA

T-220CDS P133, 16/1.3GB, 12.1"	$1475
T-510CDT P133, 16/1.3GB, TFT 12.1"	$1995
T-730XCDT/740CDT	$2295/2895

COMPAQ Armada

4150 P150MMX 16/1.6GB, 8xCD, DSTN 12.1"	$1595
7710MT / 7330T	$1895/1795
171FS 17" SVGA 1200x1600.28Flat	$465

CLUBMAC SHOCKS

PRICES SLASHED ON Quantum & Seagate

ONLY $189

IBM® ULTRASTAR ES 2.1GB

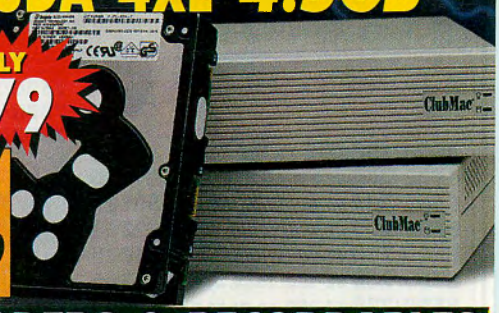
512K CACHE
5400 RPM
Internal

OUTSTANDING DEAL!

BARRACUDA 4XL 4.5GB

8.5MS Access
7200 RPM
Internal

ONLY $579



Quantum VIKING 4.5GB $399 Internal — 7200 RPM — Limited Quantities

Quantum ATLAS II 9.1GB $779 Internal — 7200 RPM — Limited Quantities

Quantum STRATUS 6.4GB $349 Internal — 5400 RPM

Seagate CHEETAH Fast & Wide 4.5GB $779 Internal — 10000 RPM

HARD DRIVES

Quantum

Quantum Stratus drives carry a 3 Year Warranty
Quantum Atlas & Viking drives carry a 5 Year Warranty

Description	Model	Access	RPM	Internal	External
Ultra SCSI-3					
2.1GB Stratus	QM32160STS	10ms	5400	$229	$279
3.2GB Stratus	QM33240STS	10ms	5400	$259	$309
4.3GB Stratus	QM34320STS	10ms	5400	$299	$349
4.5GB Viking	QM34550VKS	8ms	7200	$499	$549
4.5GB Atlas II	QM34550ALS	8ms	7200	$499	$549
6.4GB Stratus	QM36480STS	10ms	5400	$399	$449
9.1GB Atlas II	QM39100ALS	8ms	7200	$779	$829
UltraWide SCSI-3					
4.5GB Viking	QM34550VKSW	8ms	7200	$479	$559
4.5GB Atlas II	QM34550ALW	8ms	7200	$519	$599
9.1GB Atlas II	QM39100ALW	8ms	7200	$799	$879
IDE Drives					
1.6GB Stratus	QM31620STA	10ms	4500	$155	----
2.1GB Stratus	QM32160STA	10ms	4500	$169	----
3.2GB Stratus	QM33240STA	10ms	4500	$199	----
4.3GB Stratus	QM34320STA	10ms	4500	$229	----
6.4GB Stratus	QM36480STA	10ms	4500	$299	----

Seagate

Seagate drives carry a 5 Year Warranty

Ultra SCSI-3					
4.5GB Barracuda 4XL	ST34572N	8.5ms	7200	$579	$629
4.5GB Cheetah	ST34501N	8ms	10000	$679	$729
9.1GB Barracuda 9	ST19171N	8ms	7200	$949	$999
9.1GB Cheetah	ST19101N	8ms	10000	$1099	$1149
UltraWide SCSI-3					
4.5GB Barracuda 4XL	ST24572W	8.5ms	7200	$629	$709
4.5GB Cheetah	ST34501W	8ms	10000	$699	$779
9.1GB Barracuda 9	ST19171W	8ms	7200	$999	$1079
9.1GB Cheetah	ST19101W	8ms	10000	$1149	$1229
Fast SCSI-2					
23GB Elite 23	ST423451N	8ms	5400	$1849	$1949
Fast&Wide SCSI-2					
23GB Elite 23	ST423451W	8ms	5400	$1889	$1989

IBM®

HOT OFFER!!

2.1GB UltraStar ES	09J1034	8.5ms	5400	$189	$239

THE CLUBMAC PACKAGE

ClubMac drives are preformatted and thoroughly tested. ClubMac drives include a 30-Day Money Back Guarantee, Charismac Anubis Formatting Utility software, user's guide, brackets (wide drives include internal ribbon cable), 25/50-pin SCSI cable and power cord for external drives (wide drives include 68/68 pin SCSI cable).

TAPE BACK-UP

ClubMac DDS-3 DAT Drive 12-24GB $1199

CLUBMAC TAPE BACK-UP

4-8GB DDS-2 Compression DAT Drive	$799
4-8GB DDS-2 Performance DAT Drive	$899
12-24GB DDS-3 Lightning DAT Drive	$1199
15-30GB DLT Drive w/ Retrospect	$2599
20-40GB DLT Drive w/ Retrospect	$2999

ClubMac 8mm AIT Drive 25-50GB Up to 6MB/Sec! ONLY $3099

CLUBMAC AIT DRIVE

25-50GB 8mm AIT Drive	$3099

All ClubMac Tape Back-up Products are bundled with Retrospect 4.0

RETROSPECT 4.0

Retrospect 4.0 Retail Single User	$149
Retrospect 4.0 Remote 10 User License	$175
Retrospect Network Kit 4.0 (w/10 User license)	$275

REMOVABLE

FREE! Get a Second 1.5GB Cartridge

HOT OFFER!! $299 $100 OFF

SyJet 1.5

*Mail in Offer. Good through 1/30/98.

REMOVABLE DRIVES

ClubMac SyQuest 200MB 5.25"	$349
SyQuest EZ Flyer 230MB 3.5"	$149
SyQuest SyJet 1.5GB 3.5"	$299
Nomai 750MB 3.5"	$285

SYQUEST MEDIA

Media	Qty 1	Qty 10	Qty 20
44MB	$38ea	$37.50ea	$37ea
88MB	$38ea	$37.50ea	$37ea
200MB	$59ea	$58ea	$57ea
270MB	$43ea	$42ea	$41ea
EZ230MB	$27ea	$26.50ea	$26ea
1.5GB SyJet	$79ea	$75ea	$72ea

CD READERS & RECORDABLES

ClubMac 24X 24X CD-ROM 3600KB/sec data transfer 90ms avg access time Caddy-less design ONLY $169

ClubMac 4X/8X CD Recorder ONLY $499 Your Choice Discribe 2.0 Toast 3.5

CLUBMAC CD-ROM READERS

12X 140ms 1800k/sec	$129
24X 90ms 3600k/sec	$169
16X 5 Disc CD Changer	$279

CLUBMAC CD-RECORDERS

4X/8X CD-R w/Toast Pro 3.5	$499

CLUBMAC CD-REWRITABLE

2X/2X/6X CDRW w/Toast Pro 3.5	$479

THE CLUBMAC PACKAGE: ClubMac CD-ROM & CD Recorders are thoroughly tested. CD-ROM & CD Recorders include a 30-Day Money Back Guarantee, Charismac CD AutoCache utility software, user's guide, 25/50-pin SCSI cable, terminator, and power cord.

Zip Plus Drive — Includes One Free Cartridge with Zip Tools — 100MB — ZIP PLUS $199.95

Jaz 2GB Drive — 2.0GB — 2.0 JAZ $649.95 — Includes One Free Cartridge with Jaz Tools

IOMEGA ZIP DRIVES

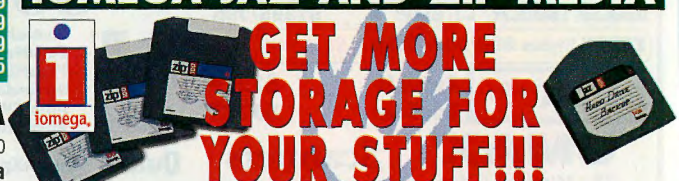
Zip Drive w/one cartridge	$139.95
Zip Bundle - drive, 11 Disks, Case, 2 Caddy's	$279*
Zip Drive Internal - all PowerMacs	$159
Zip Drive Internal - all PowerComp./Umax	$139

IOMEGA JAZ DRIVES

Jaz 2GB Media	$199.95
Jaz 2GB Drive Internal - all PowerMacs	$549.95
Jaz Drive w/one cartridge	$399.95
Jaz Drive Internal - all PowerComp./Umax	$279

Call for Other Zip and Jaz Solutions and Accessories

IOMEGA JAZ AND ZIP MEDIA



GET MORE STORAGE FOR YOUR STUFF!!!

ZIP MEDIA

Format	Part#	Qty 1-2	Qty 3-6	Qty 7-9	Qty 10+
MAC	I040 1006	$19.95	$16.95	$14.95	$12.95
PC	I040 1009	$19.95	$16.95	$14.95	$12.95

1GB JAZ MEDIA

Format	Part#	Qty 1-2	Qty 3-5	Qty 6+
MAC	I040 1015	$124.95	$99.95	$89.95
PC	I040 1037	$124.95	$99.95	$89.95

CALL 1-800-217-9208 FOR A FREE CATALOG

WARRANTIES: All items manufactured by ClubMac are returned to ClubMac for warranty repair. All other items carry manufacturer's warranty. MONEY BACK GUARANTEE: All products manufactured by ClubMac carry a 30 day money back guarantee. ClubMac extends all other manufacturers' return policies to its customers. Non-ClubMac products carry 30 day money back guarantee when specified. RETURNS: Call for RMA number! Any product that is returned WITHOUT an RMA number will be refused. ALL PRODUCT INFORMATION AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE. NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS.

THE WORLD!

PRICES SLASHED ON ALL APPLE SYSTEMS!

Authorized Catalog Reseller

PRICE SLASHED ~~$3099~~ ONLY! $2896

PowerMac 8600
- 300MHz 604e PowerPC™
- 24X CD ROM
- 32MB RAM
- 4GB HD
- Zip Drive
- 1 MB L2 Cache

PRICE SLASHED ~~$2999~~ ONLY! $1890

PowerMac G3
- 233MHz PowerPC™ G3 Processor
- 133Mhz dedicated 64-bit backside bus
- 512K L@ backside cache on processor
- 66MHz system bus
- 32MB RAM • 4MB ROM • 24X CD

PowerMac 8600 250MHz 604e, 32MB RAM, 4GB HD, 24X CD, Zip $2449*

PowerMac 9600 300MHz 604e, 64MB RAM, 4GB HD, 24X CD, Zip $3597*

PowerMac G3 266MHx G3 Desktop 32MB RAM, 4GB HD, 24X CD $2293*

PowerMac G3 266MHx G3 MiniTower 32MB RAM, 4GB HD, 24X CD $2867*

*Monitor sold separately.

Macintosh PowerBook 3400

- 12.1" Active Matrix Display
- 200MHz 603e
- 2GB Hard Drive
- 6X CD ROM

200MHz FOR JUST $2999

AS FAST AS 240MHz

PowerBook 3400 200MHz 603e, 16MB RAM, 2GB HD, 12X CD, 12.1" Active Matrix, 33.6 Modem $3593

PowerBook 3400 240MHz 603e, 16MB RAM, 3GB HD, 12X CD, 12.1" Active Matrix $4263

Macintosh PowerBook 1400CS

- 11.3" Dual Scan
- 166 MHz 603e
- 1.3GB Hard Drive
- 12X CD Rom

JUST $2199

12X CD

PowerBook 1400C 133MHz 603e, 16MB RAM, 1.3GB HD, 8X CD, 11.3" Active Matrix $2568

PowerBook 1400C 166MHz 603e, 16MB RAM, 2GB HD, 8X CD, 11.3" Active Matrix $2852

Macintosh PowerBook G3

- 250MHz PowerPC™ G3
- 50MHz System Bus
- 12.1" Active Matrix
- 20X CD Rom
- 32MB EDO RAM
- 5GB IDE Hard Drive

JUST $5547

20X CD

PowerBook G3 250MHz 32MB RAM, 5GB HD, 20X CD, 12.1" Active Matrix $5547

Starting at $1874

PowerMac 6500

- Up to 300MHz 604e
- 24X CD
- Up to 64MB RAM
- Up to 6GB HD
- 56K Modem
- Zip (except 250 MHz)

6500/250MHz 604e, 32MB RAM, 4GB HD, 24X, 56K $1874*

6500/275MHz 604e, 6GB RAM, 6GB HD, 24X, 56K, Zip $2356*

6500/275MHz 604e, 48MB RAM, 6GB HD, 24X, 56K, Zip, Business Software- Includes MS Office $2635*

6500/300MHz 604e, 64MB RAM, 6GB HD, 24X, 56K,Zip $2796*

MONITORS

Special Price 20" MONITOR ONLY $999!

SONY 20SFII 20" Monitor
- 19.1" Viewable
- .30mm

SONY
- Multiscan 100ES 15", 1280x1024, 25mm $349
- Multiscan 100GS 15", 1280x1024, on screen display $379
- Multiscan 200ES 17", 1280x1024, 25mm $629
- Multiscan 200GS 17", 1280x1024, on screen display $699
- Multiscan 20SF2 20", 1280x1024 ..... $999
- Multiscan 300SFT 20", 1280x1024 ..... $1199
- Multiscan 400PS 19", 1600x1200 ..... $1199
- Multiscan 500PS 21", 1600x1200 ..... $1799

APPLE
- Multiple Scan 15AV 15", 1024x768 ..... $399
- Multiple Scan 720 17", 1280x1024 ..... $639
- AppleVision 750 17", 1280x1024 ..... $849
- AppleVision 750AV 17", 1280x1024, speakers $949
- AppleVision 850 20", 1600x1200 ..... $1849
- AppleVision 850 AV 20", 1600x1200 ..... $1749

RASTEROPS
- MC6315 19", 1280x1024, .22 dot pitch $659
- MC7515 19", 1600x1200 ..... $999
- SuperScan MC801HR 21", 1600x1280 ..... $1769

NEC
- C500 15", 1280x1024 .28 dot pitch $329
- M500 15", 1024x768 .28 dot pitch $369
- M700 17", 1024x768 .28 dot pitch $649
- E1100 21", 1280x1024 .28 dot pitch $1269
- P1150 21", 1360x1024 .28 dot pitch $1399

VIEWSONIC
- EA 771, 17" 1280x1024, 80Hz, .25 dot pitch $569
- 17GA w/Speakers 1152x870, 86Hz, .27 dot pitch $609
- GT775, 17" 1280x1024, 80Hz, .25 dot pitch $665
- PT 813, 21" 1600x1200, 85Hz, .28 dot pitch $1429
- P 815, 21" 1800x1440, 76Hz, .25 dot pitch $1539

GRAPHIC CARDS

Nexus GA™ 8MB ONLY $529

ATI
- Nexus GA™ 8MB 2D & 3D Pro PCI ..$529.00
- XClaim VR™ 4MB PCI graphics card ..$244.25
- XClaim TV™ Tuner $82.00

IX MICRO
- Twin Turbo 128M 4MB PCI $269
- Twin Turbo 128M 8MB PCI $429
- Pro Rez (4MB Upgradesble) $269
- Ultimate Rez (8MB VRAM) $529
- Turbo TV $99.95

TECH WORKS
- Power 3D (PCI) $199

PRINTERS

AMAZING EPSON QUALITY! UNBELIEVABLE PRICES! AS LOW AS $269

EPSON
- Epson Stylus Color 600 *1440 DPI* $269
- Epson Stylus Color 800 *1440 DPI* $399
- Epson Stylus Color Photo *6 COLOR* $399
- Epson Stylus Color 3000 *17"x 22" 1440 DPI* $1999

HEWLETT PACKARD
- HP LaserJet 6MP $885
- HP DeskJet 870CXI $389

MODEMS

US Robotics 56K Sportster Data Fax Modem ONLY $167.99

After $30 mail-in rebate

GLOBAL VILLAGE
- Teleport 56K Fax/modem $149.99
- Teleport 56K Fax/modem w/X2 technology $149.99
- Teleport 56K *w/Mac OS8* $169.99
- 56K PCMCIA Combo Card $309

U.S. ROBOTICS
- 56k Sportster FAX/Modem w/X2 ..... $167.99*
- 33.6k Sportster Voice $119.99

*After $30 rebate. Ends 2/28/98

BEST DATA
- 56K MAC Fax/Modem $119.99

MEGAHERTZ
- Cruise Card, 33.6 w/ X-Jack, Cellular Ready $226
- Cruise Card, 56K w/ X-Jack $239

SCANNERS

VISIONEER PaperPort Strobe ONLY $249

Visioneer †Price after $50 mail-in rebate
- PaperPort Strobe *COLOR!* ..... $249†

AGFA †Price after $50 mail-in rebate
- Agfa SnapScan 310 30 bit Scanner $199
- Agfa Arcus II Desktop Pro Scanner $1599

UMAX
- UMAX Astra 610S $129*
- UMAX Powerlook II w/trans. adapter $1357

*Price After $20 mail-in rebate

Microtek
- Microtek Scanmaker III w/trans adapter $1389
- Microtek Scanmaker E6 w/Photoshop $529
- Microtek Scanmaker V310, 30bit $149

SOFTWARE

Quark 4.0 IN STOCK! $699

APPLE
- System 8.0 CD upgrade $69.99
- System 8.0 CD w/AICK $99.99
- Apple Remote Access MultiPort Server V 2.1 ..... $699.00

ADOBE
- Illustrator 7.0 Action Pack $374.95
- Illustrator 7.0 CD upgrade $114.95
- Photoshop 4.0.1 Action Pack $545.95
- Photoshop 4.0 upgrade $154.95
- PageMaker 6.5 Action Pack $545.95
- PageMaker 6.5 upgrade CD $89.95

CLARIS
- FileMaker Pro 4.0 ..... $181.95
- FileMaker Pro 4.0 competitive upgrade ..$89.95

MACROMEDIA
- FreeHand 7 upgrade $138.00
- FreeHand 7 ..... $374.95
- Director 6 Multimedia Studio upgrade ..$499.00
- Director 6 Multimedia Studio $925.00

MICROSOFT
- Office Standard 4.2.1 CD or Disk $449.95
- Office Standard 4.2.1 upgrade CD or Disk $265.95

SYMANTEC
- Norton Utilities 3.5 Upgrade $49.95
- SAM 4.5 ..... $63.95
- Suitcase 3.0 ..... $64.85

ACCELERATORS

MAXPowr G3 PowerPC 750 Upgrade 250MHz FROM JUST $1059

NEWER TECHNOLOGY
- MAXPowr Citation 200 MHz $359
- MAXPowr Citation 233 MHz $449
- MAXPowr G3 275/183 PPC 750 upgrade $1059
- MAXPowr G3 275/275 PPC 750 upgrade $2099
- NUPowr 183 PPC 183 for 1400 upgrade $469

SuperMac C500LT

- 240MHz 603e
- 3.3GB IDE HD
- 16MB RAM
- 1MB VRAM
- 24X CD ROM

UMAX S-500

HOT OFFER!!! 240MHz PowerPC $1295*

* Monitor sold separately.

C600x 280Mhz 603e, 32MB, 4GB, 12X, Ethernet, 33.6, *1200 Software ..$1995*

C600It 240Mhz 603e, 24MB, 2.1GB, 8X, 33.6 Modem $1395*

C600v 240Mhz 603e, 32MB, 3.3GB, 24X, Virtual PC, Speed Doubler $1495*

UPGRADE YOUR MEMORY TODAY!

64MB DIMM $279 — MEMORY AS LOW AS $20

PowerMac G3 DIMMs
16MB $64 32MB $119
64MB $299 128MB $598

72pin SIMMs
4MB $20 8MB $30
16MB $60 32MB $99

168pin DIMMs
8MB $55 16MB $65
32MB $119 64MB $279
16MB $99 32MB $169

30pin SIMMs
4MB 4 x 8 SIMMS $25

POWERBOOK MEMORY

3400 SERIES
16MB $88 32MB $174
64MB $319 128MB $635

1400 SERIES
16MB $99 32MB $169
64MB $319 128MB $635

MEMORY PRICES FLUCTUATE. PLEASE CALL FOR LATEST PRICES.

Source Code 62038

ClubMac®

ORDER TODAY! 24 HOURS A DAY 7 DAYS A WEEK

1-800-217-9208

Order On-line @ http://www.club-mac.com

Sales & Customer Service 24 Hours a Day, 7 Days a Week ..... (800) 217-9208	Corporate/Educational Sales M - F 5am - 5pm PST ..... (800) 258-2621	E-Mail:	ClubMac Sales ..... cmsales@club-mac.com
Inquiries & International Sales M - F 5am - 9pm PST ..... (714) 768-8130	Technical Support M - F 5am - 9pm PST ..... (800) 854-6227		Customer Service ... custsvc@club-mac.com
24-Hour Fax ..... (714) 768-9354			Technical Support .... techsup@club-mac.com
		Mail:	ClubMac ..... 7 Hammond, Irvine, CA 92618

800-689-3933

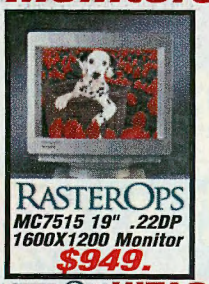
Service (310) 479-0999

Fax (310) 312-9041

LA computer center

We Beat, We Match, We Deal

Monitors



RASTEROPS HITACHI 3 year warranty

Mc 620 17" .28dp 1152X870	499.
Mc 6315 17" .22dp 1280X1024	599.
Mc 7515 19" .22dp 1600X1200	949.
Mc 801 21" .22dp 1600X1200	1349.
Mc 801HR 21" .22dp 1600X1280	1549.

SONY

Sony 100ES/GS	349./379.
Sony 200ES 17"	319.
Sony 200GS/PS	649./759.
Sony 400PS	1099.
Sony 300SF 20"	1149.
Sony 20SE II 20"	1699.

- Corporate Accounts Welcome
- Business Leasing Available
- Reseller Inquiries Welcome
- Fortune 1000, University, School, & Government Purchase Orders Accepted
- We Also carry Toshiba, Compaq, IBM notebooks.

Scanners

Agfa Arcus II	1499.
Agfa StudioStar w/ Full Photoshop	879.
Agfa StudioScan IIsi w/LE Photo	599.
Agfa SnapScan 300	299.
Umax Astra 600S w/Photo Dlx.	179.
Umax Astra 1200S w/Photo Dlx.	299.
UmaxPowerlook II w/ Photo Full	1199.
Umax Powerlook 2000	3350.
Umax Mirage II SE w/Trans. Adapter	3699.
Microtek Scanmaker V300	199.
Microtek Scanmaker III Full Photo/Tra. Ada.	1399.

Monitors

NEC

A500 15" .28DP 1280x1024	339.
E500 15" .25DP 1280X1024	389.
A700 17" .28DP 1280X1024	599.
P750 17" .25DP 1600X1200	799.
E1100 21" .28DP 1600X1200	1249.
P1150 21" .28DP 1600X1200	1349.
XP37 37" 85MM	7199.

radius

SuperMac 21TXL w/calibrated	1099.
SuperMac17XL* 17"	399.
Precision View 21"	1579.
Presview 21" SR	2899.
Presview 17" SR	1599.
Thunder 30/1600	599.
Thunder Power 30/1920	849.
Thunder TX 1152	1049.
Thunder 3D	1699.

ViewSonic

17EA 17" .28DP 1280X1024 W/SPK	539.
17GA 17" .27DP 1024X768	579.
17PS 17" .25DP 1600X1280	649.
P775 17" .25DP 1600X1280	649.
PT775 17" .25DP 1600X1280	699.
G800 20" .28DP 1600X1280	999.
G810 21" .28DP 1600X1280	1199.
P810 21" .25DP 1600X1200	1279.
P815 21" .25DP 1800X1440	1449.

Apple 1705 17" Monitor $499

Apple 15" AV	359.
Apple 15"*	299.
Apple 1710 17"	649.
Apple 720 17"	CALL.
Apple 750 17"	799.
Apple 750 AV 17"	899.
Apple 850 20"	1449.
Apple 850 AV 20"	1749.

Apple Processors

Apple 132 MHz 604e	99.
Apple 150 MHz 604e	149.
Apple 200 MHz 604e	499.
Apple 233 MHz 604e	599.

Newer Technology

MAXpowr 200MHz 604e with Sc	599.
MAXpowr 225MHz 604e with SBT	699.
MAXpowr Citation 200MHz 604e no SBT	349.
MAXpowr Citation 233MHz 604e no SBT	439.
MAXpowr Pro 250MHz 750 512k Bcksd. Cache	1199.
MAXpowr Pro+266MHz 750 1MB Bcksd. Cache	2099.
NUpowr 1400 183MHz 603ev 128KL2 Cache	549.
NUpowr PB 500 183MHz 603ev	699.
VIEWpowr PB1400 16bit video card	249.
PC Card Video In/Capture	269.

FedEx Federal Express

- WE SHIP WORLDWIDE
- NEXT DAY SHIPPING
- SAME DAY SHIPPING

Macintosh PowerMac's

4400/200 DOS $1299

- 32MB
- 2GB
- 12xCD
- DOS Card

G3 233MHz $1649

- 32MB
- 4GB
- 24xCD
- Desktop

G3 266MT 32/6GB/24x/512k	2599.
G3 266DT 32/4GB/24x	2049.
9600/350 64/4G/24xCD	3299.
9600/300 64/4GB/24/Zip	2899.
9600/233 32/4G/12xCD	CALL.
9600/200 32/4G/12xCD	2199.
9600/200 0/0/CD	1399.
9600/200MP 32/4G/12xCD	2599.
9500/150* 16/2G/4xCD	1999.
8600/300 64/4G/24xCD	2099.
8600/300 64/4G/24xCD/zip	2299.
8600/250 32/4GB/24X	1999.
8600/200 32/2G/CD	1899.
8500/180* 32/2G/8xCD	2099.
8500/150* 16/2G/CD	1699.
7600/132* 16/1.2G/CD	1399.
7300/200 32/2G/CD/KBRD.	1379.
7300/180 16/2G/12xCD/KBD.	1279.
7300/180 32/2G/8x/DOS Compatible P166	1499.
7200/120* 16/1.2G/4xC/DOS	999.
7200/120* 16/1.2/CD	899.
7200/90* 8/500/4xCD	749.
6100/66* 16/500/4xCD/DOS	849.
4400/200 16/2G/8xCD/KB.	1199.
4400/200 32/2GB/12/DOS COMP.	1299.
6500/225 32/3G/12x/Home	1399.
6500/275 32/4G/CD/MDM	1899.
6500/300 64/4G/CD/Zip	1899.

Macintosh Performas

Monitor sold Seperately

6360/120* 16/1.2G/CD	799.
6400/200* 16/2.4G/8CD/VE	1299.
6400/200 16/2.4G/8xCD	1099.*
6400/180 16/1.6G/8xCD	999.*
640/33DOS* 12/500/CD/DOS	599.
6300/120* 16/1.2G/4xCD/TV	749.
6320/120 16/1.2G/4xCD/TV	849.
6220/75* 16/1.2G/4xCD	669.
6200/75* 8/1.2G/4xCD	569.
5400/120* 16/1.6/8xCD/15" built in	1199.
5200/75* 8/800/CD	899.
LC580 8/800	699.

NOMAI

750MB MAC external	299.
750MB MAC Cartidges	55.
750MB MAC Cartidges 3-Pack	149.
EZ135 MAC Cartidges	17.
EZ135 MAC Cartidges 10-Pack	159.
CD-R Media Single/10-Pack	5/35.

UMAX

S910DP 250MHz 64/4G RAID/24x/8MVR/Zip/E100	6099.
S900DP 250MHz 64/4G RAID/8x/8MVR/Zip/100BT	5999.
S900/250MHz 32/2G/8x/8MVR/Zip/100BT	2999.
S900/233MHz 32/2G/8x/8MVR	2499.
S900/200MHz 32/2G/8x/4MVR	2149.
J700/180MHz 24/2G/8x/2MVR/33.6	1599.
C600X/280MHz 32/4G/12x/2MVR/10BT/33.6	1999.
C600X/240MHz 32/3G/12x/1MVR/10BT/33.6	1649.
C500I/200MHz 16/2G/12x/1MVR/33.6	1049.
C500LT/200MHz 16/2G/8x/1MVR	999.

Tektronix

Phaser 140 COLOR	949.
Phaser 300X COLOR	4999.
Phaser 350 COLOR	2999.
Phaser 380 COLOR	7899.
Phaser 450 COLOR	6099.

Macintosh Powerbooks

1400c/166 $2079

- 16MB
- 2GB
- CD

3400c/240 $3099

- 16MB
- 3GB
- 12xCD

C: Active Color, CS: Passive Color

G3 250MHZ 32/5GB/24X	4299.
G3 250MHZ 32/5GB/24X/MODEM	4599.
1400cs 133MHz 16/1.3G/CD	1799.
1400cs 166MHz 16/1.3G/CD	CALL.
1400c 133MHz 16/1G/CD	CALL.
1400c 166MHz 16/2G/CD	2079.
3400c 180MHz 16/1.3G/CD	2699.
3400c 200MHz 16/2G/CD	2699.
3400c 200MHz 16/2G/CD/Modem	2899.
3400c 240MHz 16/3G/CD/Modem	3299.
2400c180Mhz 16/1.2GB/	2299.
5300ce 32/1G	CALL
5300c 16/750	CALL
5300cs 8/750	1099.
5300cs/100* 16/750/14.4 Modem	1199.
540c 4/320 Used	999.
520c 4/240	CALL
520 4/240	CALL
DUO250* 12/200/Modem	799.
DUO280* 12/240/Modem	999.
DUO280C* 12/240	799.

WACOM

ArtZ 4x5	139.
ArtZ 6x8	289.
ArtZ 12x12	389.
ArtZ 12x18	599.

Now You See It. ATi

2MB ATI Video Card	229.
4MB ATI Video Card XClaim	329.
4MB ATI Video Card VR	379.
8MB ATI Video Card	479.

ix MICRO Video

4MB IMS Video Card	299.
8MB IMS Video Card	449.
Ultimate REZ 8MB	549.

Global Village Communication

Fax Modems

GV 56K Teleport	199.
GV 56K PCMCIA	259.
GV 56K Platinum Pro + Ethernet	159.
GV 19.2 Mercury PB 500 Series	199.
GV 14.4 Gold PCMCIA	99.
GV 14.4 Gold Teleport External	69.
Powerport Platinum 33.6	239.
Teleport 33.6 w/Voice	159.

US Robotics

Sportster 56K	199.
Sportster 56K PCMCIA	259.
Sportster 33.6K	159.

Memory

16MB Dimm PPC	49.
16MB Simm Performa/PC	49.
16MB for PwrBook 1400/3400	99.
24MB for PwrBook 1400	149.
32MB Dimm PPC	89.
32MB Simm Performa/PC	89.
32MB for PwrBook 1400/3400	179.
64MB Dimm PPC	149.
64MB for PwrBook 3400	299.
128MB Simm PPC	499.

Asante

ASANTE 10B/T Ethernet	59.

Macintosh Workgroup Servers

Monitor sold Seperately

9650/350 64/4G/20X/Dat Apple Share	CALL.
9650/233 64/4G/12x/Apple Share	5999.
9650/233 48/4G/12x/Internet Ready	4999.
9650/233 48/4G/12x/2GB Dat Drv.	5499.
8550/200 32/2G/CD/Apple Share	4199.
8550/200 32/2G/CD/Apple Share/Dat	4999.
7350/180 48/4G/12x/Apple Share	3099.
7350/180 48/4G/12x/Internet Ready	2899.
7350/180 48/4G/12x	2449.
7250/120 16/1.2G/CD/Networking	1299.

Powerbook Hard Drives

1.4GB Toshiba 1401MAV 12ms	199.
2.1GB Toshiba 2103MAV 12ms	279.
3 GB Hitachi Slim 12ms	449.

iomega

Jaz 2GB Drive External SCSI	629.
Jaz Drive Internal SCSI	299.
Jaz Drive External SCSI	369.
Zip Drive Internal SCSI	149.
Zip Drive External SCSI	149.
3 Pack Jaz Catridges	240.
10 Pack Zip Cartidges	130.
Single Cartridges for Jaz	89.
Single Cartridge for Zip	13.

External Hard Drives

IBM Orion 2.1GB SCSI 3.5	279.
IBM Capricorn 4.3GB Ultra SCSI 3.5	349.
IBM Capricorn 4.3GB Ultra Wide SCSI 3.5	499.
Quantum Strata 2.1GB SCSI 3.5	279.
Quantum Strata 4.3GB SCSI 3.5	359.
Quantum Atlas II 4.5 Ultra SCSI AV 3.5	599.
Quantum Atlas II 4.5 Ultra Wide SCSI AV 3.5	699.
Quantum Atlas II 9.1 Ultra SCSI AV 3.5	899.
Quantum Atlas II 9.1 Ultra Wide SCSI AV 3.5	999.
Seagate Cheetah 4.3 Ultra SCSI AV 10000RPM	699.
Seagate Cheetah 4.3 Ultra W SCSI AV 10000RPM	899.
Seagate ST34371W 4.3GB Ultra SCSI 3.5 AV	699.
Seagate ST34371W 4.3GB Ultra SCSI Wide 3.5 AV	799.
Seagate Cheetah 9.1GB Ultra SCSI AV 10000RPM	1149.
Seagate Cheetah 9.1GB Ultra W SC AV 10000RPM	1249.

Software

Following Prices valid with purchase of a Computer. The following Software are full Versions.

Microsoft Office 97	299.
Microsoft Word 97	199.
Microsoft Excel 97	199.
Microsoft Powerpoint 97	199.
Macromedia Director	499.
Microsoft Access 97	199.
Adobe Photoshop 4.0	349.
Adobe Pagemaker 6.5	349.
Adobe Illustrator	299.
Macromedia Freehand	299.

HEWLETT PACKARD Printers

HP DeskJet 340	299.
HP DeskJet 670C/692C	199./299.
HP DeskJet 820CXI/870CX	279./399.
HP LaserJet 6LXI/6PXI	385./729.
HP LaserJet 6MP/5M	829./1399.
HP LaserJet 5/5N	949./1199.
HP LaserJet 4V/4MV	1699./2399.
HP LaserJet 5SI/5MX	2299./3399.
HPColor LaserJet 5/5M	3799./4799.
HP OfficeJet 590/1150C Pro	599./939.
HP 4000 N	1499.

EPSON

Epson Stylus Color 600/800	269./369.
Epson Stylus Color 3000	1649.
Epson Stylus Photo	399.

Apple

Apple Laser 12/640	979.
Apple Laser 4/600	599.
Apple Laser 16/600PS	1279.
Apple Laser 8500	2299.
Apple Stylewriter 1500	CALL.
Apple Stylewriter 2200	279.
Apple Stylewriter 2500	189*
Apple Stylewriter 4100	239.
Apple Stylewriter 4500	339.
Apple Stylewriter 6500	CALL.
Color Portable 2200	279.

PHILIPS/MAGNAVOX 4 YEAR ON SITE WARRANTY!

ASK YOUR SALES REP REGARDING EXTENDED ON-SITE WARRANTY ON NEW AND REFURBISHED PRODUCTS.
THE ON-SITE WARRANTY BEGINS 31 DAYS AFTER THE INVOICE DATE IN MOST SITUATIONS.

$701 to $1200	$1201 to $2000	$2001 to $3000	$3001 to $4000	$4001 to $5000	$5001 to $7500	$7501 to $10000	$10001 to $15000
$157.99	$185.99	$217.99	$261.99	$291.99	$343.99	$431.99	$552.99

Terms & Conditions: All prices are cash discounted. We accept VISA, MC, Amex & Discover. COD orders will be payed by Cashier's Check, Money Order, or Certified Check only. Purchase orders will be accepted from qualified companies upon approval. Customers must pay for all shipping & insurance fees. Due to unforeseen charges in the market, prices, products & delivery are subject to change without notice. Not responsible for typographical errors. Prices given at the time of the sale are final. Shipping, insurance and COD fees are non-refundable. No refunds will be given after 3 days. 15% restocking fee on all returns. All returns must have an RMA number. All returns must have all original packing materials, manuals, warranty cards & all accessories. Trademarks are registered with their respective companies. No refunds on software & hardware. Ask for warranty and details at the time you are placing an order.

Visit Us At Our Web Site http://www.LACC.com
24Hrs A Day -- On-Line Catalog & Ordering
E-Mail us at: lacc@lacc.com or Call us at (800) 689-3933

All prices subject to change without notice • All Prices reflect cash discount • * reflects Factory refurbished units

MWAd# 0398CM

Sales (818)787-1054

Same Day Shipping

DHL WORLDWIDE EXPRESS · FedEx Federal Express

CompuMall

Your Premier Computer Source

Fax (818)787-2111

800-977-5665

Prices Are Based on C.O.D. Order & Subject to Prior Sales & Change!

* Factory refurbished with Warranty

VISA · MasterCard

www.cmpumall.com

PFO CAPITAL **Leasing Best Rates**

New *Faster MACS* at Unbelievable Deals!

e-mail:cmsales@cmpumall.com

PowerMacs

4400/200 DOS PC/166, 32-2GB, 12xCD **$1365**

7300/180 DOS PC/166, 32-2GB, 12xCD **$1695**

9600/300	64-4GB, 24xCD	$2645
9600/200MP	32-4GB, 12xCD	$2095
8600/250	32-4GB, 24xCD	$1995
8600/200	32-2GB, 24xCD	$1895
7300/200	32-2GB, 12xCD	$1395
7300/180	16-2GB, 12xCD	$1195
6500/300	32-4GB, 12xCD, Zip, 33.6	$2195
6500/275	64-4GB, 12xCD, TV, Avid	$2195
6500/250	32-4GB, 24xCD, Zip, 33.6	$1775
6500/250	48-4GB, 12xCD, Office, Zip	$1895
4400/200	32-2GB, 12xCD, 256K	$1195

Apple PowerBooks

- 3400c/240 MHz 16/3GB, CD **$2895**
- 3400c/200 MHz 16/2GB, CD **$2495**
- 2400c/180 MHz 16/1.3GB **$2195**
- 1400c/166 MHz 16/2GB, CD **$1995**

3400C Battery $99

NEW G3 Systems

PowerMacs

G3/233 32-4GB, 24xCD, Kb.	$1745
G3/266 Desktop 32-4GB, 24xCD, Zip	$2145
G3/266 Tower 32-6GB, 24xCD, Zip	$2645

PowerBook

G3/250 32-5GB, 20xCD, 33.6 **$4695**

Fax/Modem

GLOBAL VILLAGE COMMUNICATION

56K Ext. with MAC OS 8	$169
Teleport 56K External	$145
Powerport 14.4 PCMCIA	$39
56KFlex PCMCIA	$239
US Robotics 56K*X2* ($50 Rebate)	$135

3400c/240	48-3GB, CD, 10BT, 56K $3195	1400cs/133	16-1.3GB, 8xCD $1745	DUO 2300C	40-2.1GB $1395
3400c/200	48-2GB, CD, 10BT, 56K $2695	5300cs/100*	8-750MB $995*	DUO 2300C*	8-750 $995
3400c/180	16-1.3GB $2595	6x/8x/12xCD	F-PB. $175/210/249	Floppy+Adpt.	$275

Displays

APPLE

17" 750 $799

17" ,1280x1024 Res., .28

1705/1710	$495/775
1710AV	$825
17" 750AV	$895
20" 850	$1399
20" 850AV	$1699

radius PressView 17SR 0.25dpi $1549

LACIE LIMITED

.22dpi, 75MHz, 1600x1200 — 19" Color Display $889

.28dpi, 75MHz, 1600x1200 — 21" Color Display $1479

SONY

100SF 15" 0.25 dpi	$339
200ES 17" 0.25 dpi	$585
200GS 17" 0.25 dpi	$639
300SF 20" 0.25 dpi	$1395

ViewSonic

0.27dpi W/Sound

15GA 15"	$329
17EA 17"	$529
G810 21"	$1099

Digital Cameras

TOSHIBA PDR-2 $399

Apple QuickTake 200	$575
Agfa ePhoto 307	$269
Agfa ePhoto 1280	$799
CASIO QV-70	$289
CASIO QV-300	$629
EPSON PhotoPC500	$349
Kodak DC50/120	$449/699
Kodak DC-210	$789
RICOH RDC-2E	$439
SONY Mavica FD5	$459
SONY Mavica FD7	$649

iXMICRO

Video Cards

ix3D Ultimate/ Pro	$589/329
ix3D Mac Rocket	$249
Turbo TV MAC & PC	$79
TwinTurbo 128M4/M8	$259/399

Printers

APPLE

Clr. LaserWriter 12/660 PS	$3495
LaserWriter 16/600 PS	$1095
" 12/640 PS 12ppm,6MB, Ethernet	$1095
StyleWriter 4100/4500	$239/339
" " 1500/2500/2200	$149/219/249

NEW

HEWLETT® PACKARD

LaserJet 4000N/TN 17ppm	$1389/1525
LaserJet Clr.5M*/5MP*	$3999/495
LaserJet 4MV/4MV* 11x17"	$2249/2049
LaserJet 5M/5SIMX/6MP	$1385/3195/795
DeskJet 870CXi/855CXi/340CM	$319/265/335
L.Jet 5MP 6ppm,3MB, 600DPI, PSL2	$595

EPSON Stylus Color Printers

600/800/3000 — Mac & PC — $239/359/1665

SOFTWARE

Super Deals

Adobe Photoshop 4.0.1	$395
Adoobe Illustrator 7.0	$269
Adobe PageMaker 6.5	$345
Macromedia Freehand 7.0	$279
MetaCreations Painter 5.0	$269
MetaCreations Expresions	$149
QuarkXpress 4.0	$709
Connectix Virtual PC	$137
Insignia SoftWindows 3.11/95	$59/179
MS Office 98 for MAC	$449
MS Word 6.0.1	$149
MS Excel 5.0	$159

Simms & Dimms Best prices!

Message Pads

Apple Newton 2000 (5MB Memory)	$1045
Apple Newton 2000 (5MB +Kb.)	$1095
Apple Newton 130	$395
US Robotics Palm Pilot/Pro	$239/349

1-800-977-5665

www.cmpumall.com

STORAGE

LACIE LIMITED

CD Recordable w/Toast Software

2x6 CD-R	$379
4x6 CD-R	$519

CDR Media 74Min., 650MB

Qty. 100+ Spindle	$1.49
Qty. 1000+ Spindle	$1.29
CD-Rewritable	$15

iomega

Zip Plus / Jazz II	$189/619
Zip SCSI / Jaz SCSI	$137/359
10-Pk ZIP / 3-Pk JAZ Cart.	$105/249

1800-533-9005
E-MAIL US AT: COMPAMER@aol.com
(310) 446-1771 10435 Santa
FAX Bids Monica Blvd
(310) 475-7744 LA, CA 90025
We are open on Saturday!

COMPU AMERICA
"The Computer Specialist"

Check out our WEB!!!
- UPDATED DAILY!!!
- Online Ordering
- Stock/Availability
- Color Photos
- Complete Specs
- Shipping Estimates
- International Sales
- Credit/COD/Leasing
- No Wait! No hold!
- Completely Accurate!

HTTP://WWW.COMPU-AMERICA.COM

Goverment, University, and Fortune 1000 P.O.'s are welcome! International Orders Please call (310) 446-1771

SUPER SELECTION! SUPER PRICES! SUPER SERVICE!

SPECIAL! PowerMac 4400/200
200MHz 603e Desktop
16MRAM/2G/CD/DOS CARD
256K CACHE, KEYBOARD
$1299

SPECIAL! PowerMac 9600/200
200MHz 604e Mini
0/0/24XCD
MOUSE, KEYBOARD
$1399

SPECIAL! LaserWriter 12/640PS
12PPM/4M RAM
600X600DPI
$979

SPECIAL! LaserWriter 16/600PS
25MHZ/8M RAM
600DPI/17PPM
$1269

NEW G3 POWERMACS!

G3/266MT	32/6G/24X/ZIP/M	2599
G3/266DT	32/4G/24X/ZIP	2099
G3/233DT	32/4G/24XCD	1649

NEW POWERMACS!

9600/350	64/4G/24X	3299
9600/300	64/4G/24X/ZIP	2899
9600/300	64/4G/24X	2699
9600/200MP	32/4GIG/CD	2699
9600/233	32/4GIG/CD	CALL
9600/200	32/4GIG/CD	2199
9600/200	0/0/CD	1399
8600/300	32/4G/24X	2099
8600/250	32/4GIG/CD	1999
8600/200	32/2GIG/CD	1899
7300/PEN	32/2GIG/CD	1499
7300/200	32/4GIG/CD	1379
7300/180	16/2GIG/CD	1279
6500/300	32/4G/CD	1899
6500/275	64/4G/CD/CREA	1899
6500/250	48/4G/CD/OFFI	1799
6500/250	32/4G/CD/HOM	1599
6500/225	32/3G/CD	1399
4400/200	16/2G/CD/KEY	1199
4400/200	32/GIG/CD/PENT	1299
7200/120	16/1.2G/8XCD	899*
7200/120	16/1.2G/DOS	999*
8500/120	16/2G/4XCD	CALL
8500/132	16/1.2G/4XCD	CALL
8500/150	16/2G/8XCD	CALL
8500/180	32/2G/8XCD	CALL
9500/132	16/2G/8XCD/V	CALL
9500/150	16/2G/4XCD/VID	CALL
9500/200	32/2G/8XCD	CALL
9500/180	MP 32/2G/8XCD	CALL
8100/110	16/2G/4XCD	CALL

APPLE MONITORS

Apple Ms 15"	289
Apple MS 15"AV	329
Apple MS 1705 17"	479
Apple 1710 17"	669
Apple 750 17"	729
Apple 750AV	869
Apple 720 17"	CALL
Apple Multiscan 850 20"	1399
Apple Multiscan 850AV	1699

DUO DOCK	449

PERFORMAS

6400/200V	16/2.4G/CD	1299*
6400/200	16/2.4GIG/CD	1099*
6400/180	16/1GIG/CD	999*
6320/120	16/1GIG/CD	CALL
6300/100	16/1.2G/4XCD	CALL
6360/160	16/1.2G/8XCD	799*
6220/75	16/1G/CD/TV	CALL
6200/75	8/1GIG/4XCD	CALL

WorkGroup Servers

7350/180	48/4G/CD/SHA	CALL
7350/180	48/4G/CD/INT	CALL
7350/180	48/4G/CD	CALL
9650/233	64/4G/CD/SHA	CALL

APPLE Printers

SW 2200	299
SW 1500	149*
SW 2500	189*
SW 4100	239
SW4500	339
Apple LW 4/600PS	599*
Apple LW 8500	2299
Apple LW 12/640/PS	979
Apple LW 16/600PS	1269/999*
Apple LW 12/660PSC	3899

LINOCOLOR

JADE	449
SAPHIR	1389
SAPHIR ULTRA	3289
OPAL	4979
OPAL ULTRA	6249

MICROTEK
BETTER IMAGES THROUGH INNOVATION

SCANMAKER E3	149
SCANMAKER E6	279
SCANMAKER E6 PRO	529
SCANMAKER III	1249
SCANMAKER V300	129
COLOR PAGE WIZ	149

NEW G3 POWERBOOK!

63/250	32/5G/20X/56K	4599
G3/250	32/5G/20XCD	4299

POWERBOOKS

3400C/240	16/2G/CD/MOD	3299
3400C/240	16/2G/CD	3099
3400C/200	16/2G/CD/56K	2899
3400C/200	16/2GIG/CD	2699
2400C/200	16/2G/CD	2199
1400C/166	16/2G/CD	2079
1400C/133	16/1G/CD	CALL
1400CS/166	16/1G/CD	1899
1400CS/133	16/1.3G/CD	1799
5300C/100	16/1GIG	1399*
5300CS/100	16/750/MOD	CALL
5300CS/100	8/750	CALL
DUO 2300C	20/1.2GB/14.4	CALL
DUO 2300C	8/750	CALL

ViewSonic

VIEWSONIC 15GA	329
VIEWSONIC 17GA	569
VIEWSONIC G771	539
VIEWSONIC G773	559
VIEWSONIC GT775	629
VIEWSONIC G790	849
VIEWSONIC G800	999
VIEWSONIC G810	1179
VIEWSONIC 29GA	2199
VIEWSONIC P775	649
VIEWSONIC PT775	699
VIEWSONIC P810	1279
VIEWSONIC P815	1349
VIEWSONIC PT813	1299
VIEWSONIC OPTIQUEST V775	549
VIEWSONIC OPTIQUEST Q100	969
VIEWSONIC VIEW PANEL VPA138	2199
VIEWSONIC VIEW PANEL VPA 150	2499
VIEWSONIC P800	4299
VIEWSONIC PJL802 VIEWBOOK	CALL

ATi

NEXUS GA 8 MEG	499
XCLAIM ULTRA VR 4 MEG	179
XCLAIM TV TUNER	89

All prices are cash discounted. Prices subject to change without notice. Not responsible for typos. An asteisk "*" denotes refurbished product.

1800-533-9005
E-MAIL US AT: COMPAMER@aol.com
(310) 446-1771 10435 Santa
FAX Bids Monica Blvd
(310) 475-7744 LA, CA 90025
We are open on Saturday!

COMPU AMERICA
"The Computer Specialist"

Check out our WEB!!!
- UPDATED DAILY!!!
- Online Ordering
- Stock/Availability
- Color Photos
- Complete Specs
- Shipping Estimates
- International Sales
- Credit/COD/Leasing
- No Wait! No hold!
- Completely Accurate!

HTTP://WWW.COMPU-AMERICA.COM

Goverment, University, and Fortune 1000 P.O.'s are welcome! International Orders Please call (310) 446-1771

SUPER SELECTION! SUPER PRICES! SUPER SERVICE!

SPECIAL! PowerBook 3400C/240
240MHz 603e
16MRAM/3G/12XCD
ACTIVE/ETHERNET
$3099

SPECIAL! PowerMac G3/233
233MHz G3
32/4GIG/24XCD
2MB VRAM/ETER
$1649

SPECIAL! PowerMac 7300/200
200MHz 604e Mini
32/4GIG/12XCD
2MB VRAM, KEYBOARD
$1389

SPECIAL! P166 PCI DOS CARD
PENTIUM 166MHz
16MRAM/SB16
2MB VRAM/ETHERNET
$579

WACOM

ARTZ II 6 X 8 W/PAINTER 579
ARTZ II 6 X 8 289
ARTZ II 12 X 12 389
ARTZ II 12 X 18 679

HEWLETT PACKARD

5M 1399
4000N/4000NT ..... CALL
5MP 599
6MP 849
4MV 2399
Deskjet 680C 279
Deskjet 870CXI 399

radius

PRESSVIEW 17SR 1699
PRESSVIEW 21SR 2699
PRECISIONVIEW21 1699
Tunder POWER 30/1600 599
Thunder Power 30/1920 849
Thunder Power 30/1920 1099
Thunder 3D 1600 x1200 1699
VIDEO VISION STUDIO 2.0 2999

iXMICRO

TWIN TURBO 8 MEG PCI 399
TWIN TURBO 4 MEG PCI 299
TWIN TURBO 2 MEG PCI 199
TWIN TURBO TV CARD 99

GCC TECHNOLOGIES

GCC ELITE 600ET (10PPM) 899
GCC ELITE XL-608 1899
GCC ELITE XL-1212 1399
GCC ELITE XL-616 2099
GCC ELITE XL-808 2499
GCC ELITE XL-1208 3199
GCC ELITR XL-1208PLATE MAKER 4199

PROCESSER UPGRADES

APPLE POWERMAC 132MHZ 79
APPLE POWERMAC 200 MHZ 249
APPLE POWERMAC 233MHZ 299

Tektronix

PHASER 140 949
PHASER 300X 4999
PHASER 350 COLOR LASER 2999
PHASER 380 7899
PHASER 450 6099
PHASER 480X 14495
PHASER 550 COLOR LASER 3999
PHASER 600WIDE FORMAT 11999

UMAX

VISTA Astra 600-LE 149
VISTA Astra 1200-LE 249
VISTA Astra 1200-PRO 429
VISTA Astra POWERLOOKII/III 1199/CALL
VISTA Astra POWERLOOK 3000 ..... CALL
Mirage IISE w/Trans 3699

SONY

Sony 100ES/100GS 329/379
Sony 200ES/200GS 589/639
Sony 200PS 17" 789
Sony 400PS 19" 1099
Sony 300SF 20" 1099
Sony 500PS 21" 1599

EPSON

STYLUS COLOR 600 269
STYLUS COLOR 800 369
STYLUS COLOR 3000 1679
EXPRESSION/636/EXEC 739
EXPRESSION/636/ART 949
EXPRESSION/636/PRO 1299

MINOLTA

DIMAGE V595 .....
DIMAGE SCAN 699
QUICKSCAN 35 ..... CALL

NEC

NEC 15XV+ 429
NEC 17XV+ 649/599*
NEC C500 15" 429
NEC C400 14" 299
NEC E500 15" 369
NEC E700 17" 649
NEC M750 17" 879
NEC E1100 1099
NEC P1150 1299

iomega

ZIP DRIVE 100 MEG 139
ZIP DRIVE PLUS 189
JAZZ DRIVE 2 GIG ..... CALL
JAZZ DRIVE 1 GIG 369
ZIP CART 10 PACK 109
JAZZ CART 79
IOMEGA BUZ 189

RASTEROPS

SUPERSCAN MC-6215 569
SUPERSCAN MC-6315 649
SUPERSCAN MC-7515 979
SUPERSCAN MC-20" 1199
SUPERSCAN MC-801 1499
SUPERSCAN MC-801-HR 1599

GLOBAL VILLAGE COMMUNICATION

Global Village Plat 56K EXT 139
Global Village Gold II PCM 14.4 49
Global Village Gold II 14.4EXT 49
Global Village 28.8 PCMCIA 179
Global Village 56.6 PCMCIA 249
Global Village 56.6 ETH/PCM 349

AGFA

SNAPSCAN 310 199
SNAPSCAN 600 389
SNAPSCAN 600 ART LINE 529
STUDIO STAR W/FULL PHOTO 799
ARCUSII W/TRANS 1499
EPHOTO 307 279

Open: 9am-7pm M-F / 10am-4pm Sat. CST E-Mail Us at: owc@macsales.com

FedEx Federal Express

ther World Computing

SERVING THE MAC UNIVERSE SINCE 1 9 8 8

www.macsales.com
24hr. OnLine Web Ordering and Product Information
DAILY UPDATED PRICES and SPECIALS

Competitive Prices, Quality Products and NEVER a Surcharge for Credit Cards!

VISA MasterCard AMERICAN EXPRESS DISCOVER C.O.D.

800-275-4576

New G3 PowerMacs!

G3/233 Desktop 32/4GB/24X/KB.....$1879
G3/266 Desktop 32/4GB/24X/KB.....$2249
G3/266 MiniTower 32/6GB/24X/ZIP/AV/KB $2799

New G3 PowerBook

G3/250 32/5 GB/20XCD/Mdm/Eth.....$5099

PowerMacs

8600/300 604e/32/4GB/24X/1Mb Cache.....$2599
8600/300 604e/32/4GB/ZIP/24X/1Mb Cache....$2649
9600/300 604e/64/4GB/24X/1Mb/8Mb IMS ..$3199
9600/350 604e/64/4GB/ZIP LIMITED!.....$3999

PowerBooks

3400c/180 16/2 GB/6XCD/33.6 Mdm/Eth $2799
3400c/200 16/2 GB/12XCD/33.6 Mdm/Eth $3099
3400c/240 16/3 GB/12XCD/33.6 Mdm/Eth.....$3749

$64.95*

UPGRADE TO MacOS 8 TODAY!

PROCESSORS

XLR8

Clock/Bus Adjustable MachSpeed 604e MVP DaugherCards by XLR8

2 Year Warranty

MachSpeed MVP 604e/180mhz.....$259
MachSpeed MVP 604e/200mhz.....$329
MachSpeed MVP 604e/225mhz.....$389
MachSpeed MVP 604e/233mhz.....$459

CALL for NEW Arthur/Mach5 250 & 300mhz Cards

HOT BUY!

New Processor DaughterCard 604e/180

XLR8 $259

NO TRADE-IN REQUIRED!

Get the full details on accelerating your Macintosh On Our Website !

www.fastermacs.com

Accelerate with Confidence!
All acceleration products purchased from OWC have a 30 Day Money-Back Guarantee!

3D GAMING

TECHWORKS

New Techworks Power3D PCI only $199

Bundled with these awesome 3D games:
Quake™: Episode 1
MechWarrior® 2
VR Soccer™
Weekend Warrior™

Upgrade your PowerPC to a Power Arcade!

L2 CACHE

Level 2 Cache for 6100/7100/8100 & Performa 611X Series Computers

Level 2 Cache increases the efficiency of your computer by allowing it to keep often used instruction processes in fast cache memory.
Please note: 6100/66, 7100/80, & All 8100s included 256k L2 from Apple Factory.

Motorola 256k L2 Cache $15

HOT BUYS!

IDT 1024k L2 Cache $149

Up to 55% Performance Boost!

Adding this cache to a computer without a functional cache installed will increase performance by up to 40%

Level 2 Cache for 7200/7300/7500/7600/8500/8600, Certain PowerComputing & Umax Models

Please note:7200/120, All 73/76/85/8600s include 256k L2 Cache, as well as some PowerComputing/Umax models.
256k Level 2 Cache - $49 512k Level 2 Cache - $85

POWERLOGIX

PowerLogix RapidCache 02 1024k Cache for All Models $159
PowerLogix UltraCache 1024k High Speed for All Models $279

Level 2 Cache for PowerMac & Performas 5400/5500/6360/6400/6500, StarMax Computers/clones, PowerComputing PowerBase Computers, & Umax c500/c600 Computers.

Please note:6400/200, All 6500s, & Some PowerBase come with 256K L2 Factory Installed
512k High Performance Level 2 Cache - Up to 53% Performance Boost... .....SPECIAL $49
1024k High Performance Level 2 Cache - Up to 70% Performance Boost $159

MULTI-MEDIA SOUND SYSTEM

Check Out The Fantastic Mac-coustics

Atlantic Technology M105/M110 BassToaster and Loudspeaker System

50 Watt Sub-Woofer Speaker System

TOP RATED $99

TAKE YOUR MUSICAL & SOUND EXPERIENCE TO A WHOLE NEW LEVEL!

Other World Computing is proud to offer new Atlantic Technologies multi-media speaker systems. These systems include the M105 BassToaster subwoofer unit and 2-M110 loud speakers. The loud speakers provide a satellite style system around your desk while the BassToaster can be conveniently placed anywhere. Whether for playing music or for the full effect of today's multimedia software & games, the M105/M110 speaker set provide an unrivaled sonic experience for only $99!

With a free 30 day in home trial, how can you go wrong?

Other World Price is Regularly $109.00, but with the order of anything else, you get this system for just $99.00!
C-net reviewed this system and listed its retail price at $269.00!
See its review at: http://www.cnet.com/Content/Reviews/Compare/Speakers/ss02k.html

Mac Batteries

3.6v Lithium Clock/PRam Battery for Mac II Series/LC II,III,400 Series/Quadra 475,610,660av,700,800,840av, Most PowerMacs. $9.95

4.5v Lithium Clock/PRam Battery Quadra/Performa/LC 630,631,635,637, 638,640s, PowerMac 4400s. $15.95

Other World Computing
224 West Judd St., Woodstock, IL 60098
International: (815) 338-8685
Fax: (815) 338-4332

Prices, availability, and specification subject to change without notice. Items not covered by 30 Day Money back guarantee subject to 15% restocking fee if returned for credit. Returns for credit accepted within 30 days of purchase only.

ther World Computing

SERVING THE MAC UNIVERSE SINCE 1988

FedEx Federal Express

Competitive Prices, Quality Products and NEVER a Surcharge for Credit Cards!

VISA MasterCard AMERICAN EXPRESS DISCOVER C.O.D.

800-275-4576

OWC OnLineOrdering IsOnLineNow

www.macsales.com

MEMORY

OWC is an authorized Techworks Reseller

TECHWORKS Power To Perform™

30 Day Money Back Guarantee LifeTime Replacement Warranty on all Memory

SIMM

30 PIN SIMMS for Older Macs 70 or 60ns (Specify)

1 MEG	$8	4 MEG	$19
8 MEG	$59	16 MEG	$99

SIMM

72 PIN SIMMS 2k Refresh 60/70/80ns (specify)

for Apple LCIII; Performa/LC 475,476,477,575,577,578,580; Centris/Quadra/Performa 605,610,630,631,635,637,638,660av, 800,840av; PowerMac/Performa 6100,6110,6112,6115,7100, & 8100 Series computers. Also comp. w/ Apple 610 & 6100 Dos Cards.

4 MEG	$12	8 MEG	$21
16 MEG	$39	32 MEG	$75

G3 SDRAM

New SDRAM Modules for New G3 PowerMacs

16 MEG	$59	64 MEG	$259
32 MEG	$89	128 MEG	$499
4 MEG G3 Video SDRAM	$89		

VIDEO RAM

Video Ram Memory Upgrades

256k PMac 7100/Quadra800/650	$15
512k PMac 8100/Quadra's/LC's	$25
1MEG PMac 72/75/76/8500 & Comp.	$19
1 MEG PCI Dos Card Upgrade	$25
4 MEG StarMax/4400/PowerBase	$69

3.3v EDO DIMM

3.3v EDO 168 PIN DIMMS 60ns

for Motorola StarMax, APS, PowerTools Clones & Apple PowerMac 4400

16 MEGABYTE	$59
32 MEGABYTE	$79
64 MEGABYTE	$149

5v DIMM

5v 168 PIN DIMMS 2K Refresh 60ns

for Apple 5400/6360/6400/7200/7300/7500/7600/ 8500/9500 & Compatible PowerComputing & Umax Computers.

8 MEGABYTE	$35
16 MEGABYTE	$49
32 MEGABYTE	$75
64 MEGABYTE	$139
128 MEGABYTE	$499

5v EDO DIMM

5v EDO 168 PIN DIMMS 2K Refresh 60ns

for Apple 5500/6500/8600/9600, PowerComputing PowerBase, & Umax C500/C600 Computers Will Also work in all machines utilizing non-edo 5v memory dimms except Apple 7200.

8 MEGABYTE	$39
16 MEGABYTE	$49
32 MEGABYTE	$69
64 MEGABYTE	$129
128 MEGABYTE	$499

PowerBook MEMORY

TECHWORKS

MONEY-BACK GUARANTEE 30-DAY MONEY-BACK GUARANTEE

TWENTY-FOUR HOUR REPLACEMENT PROMISE

PowerBook 3400/3500 Series

16 MB	$79	32 MB	$129
64 MB	$229	96 MB	$349
128 MB	$449		

PowerBook 1400 Stackable Memory

8 MB	$69	16 MB	$95	24 MB	$129

PowerBook 5300/190/500 Series (PLEASE SPECIFY)

8 MB	$69	16 MB	$95	24 MB	$129
32 MB	$119 SPECIAL	48*MB	$269	* FOR 5300 ONLY	

PowerBook Duo Series Memory

8 MB	$79	12 MB	$119
16 MB	$109	20 MB	$159
24 MB	$159	28 MB	$199
32 MB*	$189	36 MB	$239
40 MB	$259	48 MB*	$279

* FOR 2300 ONLY

STORAGE

30 Day MoneyBack Guarantee on all SCSI & IDE Hard Drives!

Internal & External SCSI Hard Drives

All hard drives ship preformatted with FWB HD Tool Kit PE 2.0.6 or higher and over 30mbs of shareware/freeware/public domain software installed. External Drive enclosures have a 40 Watt Universal Auto-Switching Powersupply, Push Button ID Selector, Dual SCSI Ports, High-Capacity UltraQuiet Cooling Fan, and include power cable and SCSI Cable.

FWB HD Tool Kit v2.0.x Included with all Hard Drives
30 Day Money Back Guarantee Full Manufacturer Warranty

MacOS Compatible

SCSI

		Internal	External
IBM 2.1gb UltraStar II	8.5ms w/5yr Warranty	$199	$249
Quantum 2.1gb Fireball SE	5400rpm 9ms w/3yr Warranty	$235	$279
Quantum 2.2gb Atlas II	7200rpm 8ms w/5yr Warranty	$229	$279
Quantum 3.2gb Fireball SE	5400rpm 9ms w/3yr Warranty	$269	$319
Quantum 4.3gb Fireball SE	5400rpm 9ms w/3yr Warranty	$319	$369
IBM 4.3gb UltraStar II	5400rpm 8.5ms w/5yr Warranty	$319	$369
Quantum 6.4gb Fireball SE	5400rpm 9ms w/3yr Warranty	$389	$439
Quantum 8.4gb Fireball SE	5400rpm 9ms w/3yr Warranty	$509	$559
Quantum 9.1gb Atlas II	7200rpm 8ms w/5yr Warranty	$849	$899

SCSI Removable Storage Devices, CD-Rom, & CD-Recordable Products

IOMEGA JAZ 2GB - CALL!

		Internal	External
Iomega Zip Plus 100mb w/1 cartridge		$159	$149
Iomega Jaz 1gb		$299	$359
Sony CDU926	2x Write/6X Read CDR w/ToastPro	$409	$449
Yamaha CDR400T	4x Write/6x Read CDR w/ToastPro	$499	$549

Zip 100mb Carts - $12 each / $109 per 10pk
Jaz 1gb Carts $85 each / $399 per 5pk
CDR Recordable Gold Media - $3.49 ea. / $160 per 50pk / $289 per 100pk

IDE

IDE 3.5" Internal Hard Drives

IDE 3.5" Drives for Performa/Quadra 630,5200,5300,5400,6200,6300, 6400, & 6500 Series Computers; Starmax, APS, and PowerMac 4400 computers.

Quantum 2.1gb Fireball SE	5400rpm 9.5ms 3yr	$169
Quantum 3.2gb Fireball SE	5400rpm 9.5ms 3yr	$199
Quantum 4.3gb Fireball SE	5400rpm 9.5ms 3yr	$249
IBM 4.0gb UltraStar II	5400rpm 8.5ms 5yr	$299
Quantum 6.4gb Fireball SE	5400rpm 9.5ms 3yr	$329
Quantum 8.4gb Fireball SE	5400rpm 9.5ms 3yr	$399

PowerBook STORAGE

New 2.5" SCSI Drives

220 Mb Apple 1 Year Warranty	$179
240 Mb Apple 1 Year Warranty	$199
340 Mb Quantum 1 Year Warranty	$229
810 Mb Toshiba 12ms SCSI 3 Year Warranty	$389

New 2.5" IDE Drives with 3 Year Warranty for Pb150/190(cs)/5300/1400/3400 Series

1.0 Gb Toshiba 4200 RPM 13ms 3 Year Warranty	$159
2.1 Gb Hitachi 4436 RPM 12ms 3 Year Warranty	$199
3.0 Gb IBM 4200 RPM 13ms 3 Year Warranty	$319
3.2 Gb Hitachi 4436 RPM 12ms 3 Year Warranty	$359
4.0 Gb IBM 4200 RPM 13ms 3 Year Warranty	$529
5.0 Gb IBM 4200 RPM 13ms 3 Year Warranty	$589

Call or visit our website for other models

Other World Computing
224 West Judd St., Woodstock, IL 60098
International: (815) 338-8685
Fax: (815) 338-4332

Prices, availability, and specification subject to change without notice. Items not covered by 30 Day Money back guarantee subject to 15% restocking fee if returned for credit. Returns for credit accepted within 30 days of purchase only.

MWAd# 0398CM

Sales (818)787-1054

Same Day Shipping

DHL Worldwide Express · FedEx Federal Express

CompuMall

Your Premier Computer Source

800-977-5665

Fax (818)787-2111

Prices Are Based on C.O.D. Order & Subject to Prior Sales & Change!

* Factory refurbished with Warranty

American Express · VISA · MasterCard

www.cmpumall.com

PFO Capital **Leasing Best Rates**

New *Faster MACS* at Unbelievable Deals!

e-mail:cmsales@cmpumall.com

PowerMacs

4400/200 DOS PC/166, 32-2GB, 12xCD **$1365**

7300/180 DOS PC/166, 32-2GB, 12xCD **$1695**

9600/300	64-4GB, 24xCD	$2645
9600/200MP	32-4GB, 12xCD	$2095
8600/250	32-4GB, 24xCD	$1995
8600/200	32-2GB, 24xCD	$1895
7300/200	32-2GB, 12xCD	$1395
7300/180	16-2GB, 12xCD	$1195
6500/300	32-4GB, 12xCD, Zip, 33.6	$2195
6500/275	64-4GB, 12xCD, TV, Avid	$2195
6500/250	32-4GB, 24xCD, Zip, 33.6	$1775
6500/250	48-4GB, 12xCD, Office, Zip	$1895
4400/200	32-2GB, 12xCD, 256K	$1195

Apple PowerBooks

- 3400c/240 MHz 16/3GB, CD **$2895**
- 3400c/200 MHz 16/2GB, CD **$2495**
- 2400c/180 MHz 16/1.3GB **$2195**
- 1400c/166 MHz 16/2GB, CD **$1995**

3400C Battery $99

NEW G3 Systems

PowerMacs

G3/233	32-4GB, 24xCD, Kb.	$1745
G3/266	Desktop 32-4GB, 24xCD, Zip	$2145
G3/266	Tower 32-6GB, 24xCD, Zip	$2645

PowerBook

G3/250 32-5GB, 20xCD, 33.6 **$4695**

Fax/Modem

Global Village Communication

56K Ext. with MAC OS 8	$169
Teleport 56K External	$145
Powerport 14.4 PCMCIA	$39
56KFlex PCMCIA	$239
US Robotics 56K*X2* ($50 Rebate)	$135

3400c/240	48-3GB, CD, 10BT, 56K $3195	1400cs/133	16-1.3GB, 8xCD $1745	DUO 2300C	40-2.1GB $1395
3400c/200	48-2GB, CD, 10BT, 56K $2695	5300cs/100*	8-750MB $995*	DUO 2300C*	8-750 $995
3400c/180	16-1.3GB $2595	6x/8x/12xCD	F-PB. $175/210/249	Floppy+Adpt.	$275

Displays

17" 750 $799

17",1280x1024 Res., .28

1705/1710	$495/775
1710AV	$825
17" 750AV	$895
20" 850	$1399
20" 850AV	$1699

radius PrecisionView 21" 0.25dpi $1595

PressView 17SR 0.25dpi $1549

LACIE LIMITED

.22dpi, 75MHz, 1600x1200 — 19" Color Display $889

.28dpi, 75MHz, 1600x1200 — 21" Color Display $1479

SONY

100SF 15" 0.25 dpi	$339
200ES 17" 0.25 dpi	$585
200GS 17" 0.25 dpi	$639
300SF 20" 0.25 dpi	$1395

ViewSonic 0.27dpi W/Sound

15GA 15"	$329
17EA 17"	$529
G810 21"	$1099

Digital Cameras

TOSHIBA PDR-2 $399

Apple QuickTake 200	$575
Agfa ePhoto 307	$269
Agfa ePhoto 1280	$799
CASIO QV-70	$289
CASIO QV-300	$629
EPSON PhotoPC500	$349
Kodak DC50/120	$449/699
Kodak DC-210	$789
RICOH RDC-2E	$439
SONY Mavica FD5	$459
SONY Mavica FD7	$649

iXMICRO

Video Cards

ix3D Ultimate/ Pro	$589/329
ix3D Mac Rocket	$249
Turbo TV MAC & PC	$79
TwinTurbo 128M4/M8	$259/399

Printers

Clr. LaserWriter 12/660 PS	$3495
LaserWriter 16/600 PS	$1095
" 12/640 PS 12ppm,6MB, Ethernet	$1095
StyleWriter 4100/4500	$239/339
" " 1500/2500/2200	$149/219/249

NEW

HEWLETT® PACKARD

LaserJet 4000N/TN 17ppm	$1389/1525
LaserJet Clr.5M*/5MP*	$3999/495
LaserJet 4MV/4MV* 11x17"	$2249/2049
LaserJet 5M/5SIMX/6MP	$1385/3195/795
DeskJet 870CXi/855CXi/340CM	$319/265/335
L.Jet 5MP 6ppm,3MB, 600DPI, PSL2	$595

EPSON Stylus Color Printers

600/800/3000 — Mac & PC — $239/359/1665

SOFTWARE

Super Deals

Adobe Photoshop 4.0.1	$395
Adoobe Illustrator 7.0	$269
Adobe PageMaker 6.5	$345
Macromedia Freehand 7.0	$279
MetaCreations Painter 5.0	$269
MetaCreations Expresions	$149
QuarkXpress 4.0	$709
Connectix Virtual PC	$137
Insignia SoftWindows 3.11/95	$59/179
MS Office 98 for MAC	$449
MS Word 6.0.1	$149
MS Excel 5.0	$159

Simms & Dimms Best prices!

Message Pads

Apple Newton 2000 (5MB Memory)	$1045
Apple Newton 2000 (5MB +Kb.)	$1095
Apple Newton 130	$395
US Robatics Palm Pilot/Pro	$239/349

1-800-977-5665

www.cmpumall.com

STORAGE

LACIE LIMITED

CD Recordable w/Toast Software

2x6 CD-R	$379
4x6 CD-R	$519

CDR Media 74Min., 650MB

Qty. 100+ Spindle	$1.49
Qty. 1000+ Spindle	$1.29
CD-Rewritable	$15

Zip Plus / Jazz II	$189/619
Zip SCSI / Jaz SCSI	$137/359
10-Pk ZIP / 3-Pk JAZ Cart.	$105/249

Iomega

The Mac Zone®

Your Macintosh® Catalog SuperStore™

We Carry the Full Line of Apple® Macintosh® Computers

Call for a FREE CATALOG!

NEW FROM MACROMEDIA!

Web savvy, auto effects, publishing ease & more!

FreeHand 8 Upgrade

ONLY **$148.98**

#84242

604e power to fit your budget!

Apple® Power Macintosh® 7300/180

- **180MHz** PowerPC™ 604e RISC processor
- **16MB RAM,** exp. up to 512MB
- Fast SCSI **2GB hard drive**
- **12X** CD-ROM drive
- **16-bit stereo** audio input and output
- **2MB VRAM** expandable to 4MB
- **3 PCI** expansion slots

ONLY **$1499**

#80897

While supplies last.

Monitor sold separately.

BLOWOUT!

Save money, invest wisely, reduce debt, and more!

MacInTax Deluxe & Quicken Deluxe 98

BOTH ONLY **$59.98**

#74202

After $20 mfr. mail-in rebate for MacInTax Deluxe and $20 mfr. mail-in rebate on Quicken Deluxe 98. For owners of previous versions of Quicken. Low Zone bundle price: $99.98.

Fast color printing for the networked office!

HP DeskJet 870Cse Printer

ONLY **$399.98**

#36156

A value-priced monitor for multimedia applications

Nokia 17" Multimedia Monitor

15.9" viewable, .26mm

ONLY **$449.98***

#47499

*With purchase of any CPU.

#75609 Nokia 17" Multimedia Monitor. **$499.98**

Turns your Mac into a FAST, functional, PC!

NEW VERSION!

SoftWindows 95 5.0 CD

ONLY **$88.98**

#87440

INSIGNIA SOLUTIONS

The most affordable and portable storage solution!

Zip™ 100MB Drive

ONLY **$134.95**

#91825

#52581 Iomega ZipPlus **$199.95**

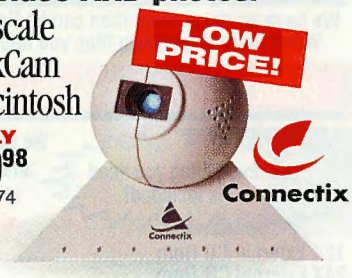
The affordable way to shoot digital video AND photos!

Grayscale QuickCam for Macintosh

ONLY **$69.98**

#72574

LOW PRICE!



State-of-the-art technology for an unbelievable price!

Apple® Power Macintosh® G3

- **233MHz** PowerPC™ G3 processor
- **32MB RAM,** exp. up to 192MB
- **4.0GB** hard drive
- **24X** CD-ROM drive
- **66MHz** system bus speed
- **117MHz** backside cache
- **2MB** video SGRAM
- Built-in **10Base-T Ethernet**

ONLY **$1999**

#77039

Monitor sold separately.

BLAZING G3 PROCESSOR!

16MB DIMMS

AS LOW AS **$79.98**

CALL FOR LATEST PRICES ON MEMORY.

4.4 pounds – 2" thick and packed with power!

Apple® Macintosh® PowerBook® 2400c/180MHz

NOW ONLY **$2499**

#74700

180 MHz!

LOW PRICE!

We're open 24 hours a day/7 days a week. Shop online at

www.maczone.com

or FAX your order to 425•430•3500

SOURCE CODE **MA803**

Circle 71 on your reader service card

1•800•304•0286

Copyright © 1998 The Mac Zone ® is a registered trademark of Multiple Zones International, Inc. All rights reserved.

A NASDAQ® COMPANY Ticker Symbol: MZON

CALL THE MAC EXPERTS!

Your one-stop source for everything Macintosh. Complete solutions and expert advice our specialty!

With every system you receive:
- **Over 200 megabytes of additional free software**
- **Deluxe Mouse Pad**
- **Complete bench-testing before shipment**
- **800 line technical support**
- **Personalized service: no voice mail – ever!**

Package PBA983

Factory Refurbished PowerBase 180: 180 MHz 603e w/**32** Mb RAM, 2 gig drive, 16x internal CD-ROM, 15" color display, APC Pro Surge Protector. Only **$1249**, or just **$50** per month!*

Package 7PA983

PowerMac 7300/180 with Pentium Board! **32** Mb of Mac RAM, 16 Mb of Pentium RAM, 2 Gig hard drive, 12x CD Rom, 15" Color Monitor, Microsoft Windows software. All this for only **$1999**, or just **$80** per month!*

*Only while supplies last!

Monitors shown may not match monitors in package.

FREE 3 game CD set with every pre-packaged system!*

Package 52A983

Factory Refurbished PowerMac 5200 all-in-one unit: 75 MHz w/**24** Mb RAM, 500 Mb drive, built-in color display, APC Pro Surge Protector. Perfect for school or home! Complete system is only **$899!***

Package G3A983

Macintosh G3 233 desktop, **48** mb RAM, 15" Color Display, Microsoft Office 4.21, Astra 610S scanner w/PhotoDeluxe, Microsoft Office w/ Bookshelf. Only **$2688**, or just **$108** per month!*

Package G6A983

PowerMac G3 Tower: 266 MHz w/**64** Mb RAM, 6 gig drive, 24x CD, internal Zip drive, 17" color display, Astra 1200s Scanner w/PhotoShop 4.0, commercial surge protector. Only **$3999**, or just **$152** per month!*

Package 96A983

PowerMac 9600: 300 MHz with **128** Mb RAM, 4 gig drive, 24x CD-ROM, 17" PowerMax Trinitron, commercial surge protector. Only **$3699**, or just **$141** per month!*

PACKAGE DEAL BLOWOUT! ORDER ONE OF THESE COMPLETE SYSTEMS TODAY, OR CUSTOMIZE IT YOUR WAY!

*While supplies last. Includes Blackthorn, Police Quest and Descent.

PowerMax Trinitron™ Monitors

Model PM15T	25 mm dot pitch- up to 1280x1024	$349
Model PM17T	25 mm dot pitch- up to 1280x1024	$649
Model PM17TE+	25 mm dot pitch- up to 1600x1280	$849
Model PM21T	30 mm dot pitch- up to 1600x1200	$1299
Model PM20T	30 mm dot pitch- up to 1600x1280	$1449
Model PM20T+	W/ 25 mm dot pitch!	$1649

PowerMax Trinitron™ monitors are designed specifically for the rigorous demands of the Macintosh. They ship complete with Mac-ready cables and adapters, a three year warranty (five year parts), and our satisfaction guarantee: if the monitor is not just right, we'll replace it for you!

MacUser Labs Said:

"Four Mice! A PowerMax Power Play" *and* "Not only do the PowerMax monitors display good-looking images, but (they) are affordably priced!" *and* "Nice price, nice image quality, nice controls – *nice monitor!*"

Over 18,000 Mac items available!

We have so much more than can be listed in one ad! When there is anything Mac you need– just call!

PowerMax External Hard Drives

We customize high-end arrays for all Macs!
•Atto •Micronet •FWB •Optima

12X External CD Rom	$139
24X External CD Rom	$179
Ref External Jaz One Gig Removable	$288
External Jaz One Gig Removable	$349
2x6 CD Recorder w/Toast Software	$399
4x6 CD Recorder w/Toast Software	$569
External 2.0 Gig Samsung 5400 RPM	$269
External 2.0 Gig Seagate 5400 RPM	$279
External 4.0 Gig Seagate 7200 RPM	$349
External 3.2 Gig Quantum 5400 RPM	$349
External 4.3 Gig Quantum 5400 RPM	$399
External 6.4 Gig Quantum 5400 RPM	$488
External 4.5 Gig Seagate 7200 RPM	$674
External 4.5 Gig Seagate 10000 RPM	$819

Turn your old equipment into the latest Macintosh system!

We will take your hard drive (dead or alive– 540 Mb or larger) *or* Macintosh computer in trade toward the purchase of any product we sell! Call one of our expert system designers for complete details!

Why Buy From PowerMax?

- Most orders ship within 24 hours- even customized systems!
- We speak plain English; you'll talk to an informative, knowledgeable person with no technotalk or high pressure sales tactics!
- We offer flexible terms, and are experts on easy leasing!
- Aggressive purchasing and high volume means low, low pricing!
- We consult with you: we want to make sure what you buy is what you need. We'll probably ask you as many questions as you ask us!
- We're based in Portland, Oregon, where the people are friendly and polite, and where there is no sales tax!

We can put you into a complete Mac system for under $800!

Specially Priced Values: refurbished by Mfgr. to as new condition. The best Mac deals ever!

Performa 6205 8/1 Gig/CD	$599
Performa 6220 16/1 Gig/CD	$699
Performa 6230 16/1 Gig/CD	$699
Starmax 3000/200 16/1.2/CD	$829
StarMax 4000/160 16/1.2/CD	$899
PowerBase 180 16/2000/16x CD	$949
PowerMac 4400 32/2000/12x CD	$949
Powerbook 5300CS 8/750	$999
Performa 6400 16/2.4 Gig/12x CD	$1049
PowerBase 240 16/2000/CD	$1195
Powerbook 5300C 16/750	$1249

Customizable Mac Systems

PowerMac 7300/180 16 Ram/12x/KB	$On special!
PowerMac 7300/200 16 Ram/12x/KB	$1349
PowerMac G3 233 32/24x CD/KB	$1788
PowerMac G3 266 32/24x CD/Zip/KB	$2169
PowerMac G3 Twr 266 32/24x/Zip/KB	$2649
PowerMac 8600/300 32 Ram/24x/0 Zip	$2095
PowerMac 8600/300 32 Ram/24x/Zip	$2195
PowerMac 9600/300 64 Ram/24x/0 Zip	$2788
PowerMac 9600/300 64 Ram/24x/Zip	$2888
PowerMac 9600/350 64 Ram/24x/0 Zip	$3333

Ready-Made Mac Systems

PowerMac 6400/180 16/1.6/CD	$1049
PowerMac 6400/200 16/2.4/CD	$1199
PwrMac 5400/180 32/1.6 Gig/CD w/display	$1299
PwrMac 6500/250 48/4Gig/12x CD/Zip	$1799
PowerMac 4400/200 PC Compatible	$On special!
PowerMac 6500/250 32/4000/24x/56k	$1899
PowerMac 6500/275 32/6000/24x/Zip	$2399
PowerMac 6500/275 48/6000/24x/Zip	$2699
PowerMac 6500/300 64/6000/24x/Zip	$2899
PowerMac 7300/180 Pentium System	$Blowout!
PowerMac G3 233 32/4000/24x CD/KB	$1888
PowerMac G3 266 32/4000/24x CD/Zip/KB	$2269
PowerMac G3 Twr 266 32/6000/24x/Zip/KB	$2799

Powerbooks- EVEN LOWER PRICES!!

Powerbook 1400, 2200, 3400 and the G3 are all in stock. All accessories and RAM upgrades too!

Umax SuperMac– we stock all models!

SuperMac C500/200LT 16/2 Gig/8x	$995
SuperMac C500/200I 16/2 Gig/12x/33.6	$1095
SuperMac C600/200 16/2.1 Gig/8x/33.6	$1195
SuperMac C600/240LT 24/2 Gig/12x/33.6	$1395
SuperMac S900DP/250 64/4Gig/12x +	$6995

We also accept educational and corporate purchase orders, and are experts in financing for virtually any size business!

POWER MAX

Knowledge is Power

800-441-6977

Local line: (503) 624-1827
Sales Fax: (503) 624-1635
http://www.powermax.com
E-Mail: powermax@europa.com

Prices subject to change without notice. Prices reflect cash discount. Credit card orders strictly verified against fraudulent use. With use of credit card as payment customer acknowledges that some products are subject to final sale. Not responsible for typographical errors.

FREE Software

Windows® 95-compatible. Now available on Macintosh and CD-ROM, too!

FREE software for creating cards, posters and banners—Welcome to all-NEW Greetings 2.0! It's easy, fun—and FREE!

Join the hundreds of thousands of satisfied customers who save money—and have fun—creating their cards, posters and banners the fast, easy, FREE way—with Greetings 2.0!

Through this special offer, you can have Greetings 2.0—not for $39, not for $29—but FREE! (You pay just $9.95 shipping charges.)

The very latest in software—FREE!

Greetings 2.0 is NOT a limited, demonstration program that requires you to pay more to get the real thing. No, Greetings 2.0 is a complete, high-performance program.

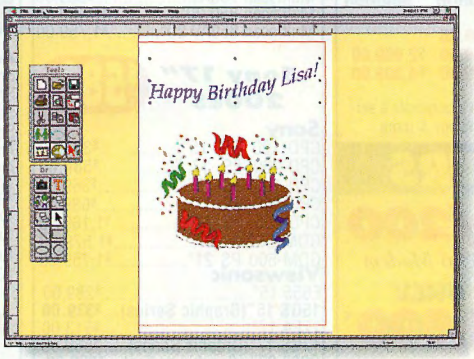
It's so easy to use. Just select a layout, insert any of the 62 included graphic images, customize your text, and print! That's all it takes to create unique, personal holiday greeting cards, for sale posters, party banners and so much more.

Why is Greetings 2.0 free?

It's simple. We want to welcome you to the Parsons Technology family of software products. And giving you free software is one of the best ways we know.

You'll love Greetings 2.0, so we're sure you'll turn to our other software titles for affordable, high-performance solutions in the future!

First, pick your favorite format and graphics.



Then, add text and print—it's simple!

- **NEW!** 62 eye-catching graphics!
- **NEW!** Place as many graphics as you wish on each page!
- **NEW!** Stretch, shrink, copy graphics anywhere in your layout!
- **NEW!** Position and size objects with Zoom, Ruler, Guideline and other user-defined tools!
- **NEW!** Print Preview lets you see your documents just as they'll print!

AND MORE!

For your FREE* copy of Greetings 2.0, call

1-888-369-7422

Operators are standing by 24 hours a day, 7 days a week. Or fax the attached order form to 1-319-395-7449 or mail it to the address below.
Or order online:
Internet: (http://www.parsonstech.com)
America Online®: (keyword PARSONS)

Hurry—this offer is limited to the first 50,000 orders!

☑ Yes! Send me Greetings 2.0 FREE*!

***Please add $9.95 for shipping charges ($11.95 for Canadian orders and $20.95 for all other orders outside North America). No purchase orders, please. Includes detailed User's Guide and expert technical support.**

Name _____

Address _____

City _____ State _____ Zip _____

Daytime Phone ( ) _____

Evening Phone ( ) _____

Disk Size: ❑ 3.5" ❑ CD-ROM (*We ship HD 3.5" disks if unmarked.*)
Disk Format: ❑ Windows 3.1 ❑ Windows 95 ❑ Macintosh
Payment Method: ❑ Check or Money Order enclosed ❑ Visa ❑ MasterCard ❑ Discover/Novus ❑ American Express

Card # _____ Exp. _____ E-Mail _____@_____

❑ Please just send me your FREE software catalog!

Order online—*http://www.parsonstech.com*

Mac™OS

WORKS WITH WINDOWS® 3.1 AND WINDOWS® 95

PARSONS TECHNOLOGY
1-888-369-7422
Product Development Center, 1700 Progress Drive, Hiawatha, IA 52233

Designed for Microsoft® Windows®95

Includes 62 graphic images!

Your Priority Code is 776607J

SYSTEM REQUIREMENTS: Greetings 2.0 for Windows requires an IBM® or compatible PC, 4MB RAM, Microsoft® Windows 3.1, Windows NT 3.5 or later, or Windows 95, and 6MB hard drive space. Mouse required. **Greetings 2.0 for Macintosh** requires System 7.0 or better, 8MB RAM, an 11-inch monitor or larger (Powerbook monitor ok) and 5MB hard drive space. All CD-ROM versions requires a CD-ROM drive. Shipping charges are non-refundable. Copyright © 1997 Parsons Technology, Inc. All rights reserved. Greetings is a trademark of Parsons Technology, Inc. 3011

THE GOOD , THE BETTER and THE BEST DEALS ARE HERE!

The Macintosh Authority
MacNet

VISIT US ON THE NET AT www.applemacnet.com

1-CONSULT UPDATED PRICES! 2-ONLINE CATALOG ,OFFERS & ORDERING 3-CREDIT CARDS ,C.O.D. , P.O. & LEASING
4-CUSTOMER SERVICE 5-WORLWIDE SHIPPING ON THE FLY 6-SCHOOLS , UNIVERS. & US GOVERN. WELCOME

NEW G3 SERIES

G3•233MHz/32MB/4GB/24XCD.....$1,799.00
G3•266MHz/32MB/4GB/24XCD/Zip Drive(Desktop).....$2,199.00
G3•266MHz/32MB/6GB/24XCD/Zip Drive/AV card(Minitower)$2,799.00

Power Macs
7300 200MHz/16MB/2GB/12XCD.....$1,599.00
7300PC 200MHz/16MB/2.0GB/8xCD.....$1,999.00
¥8600 300MHz/64MB/4GB/Zip Drive/24XCD.....$2,359.00
9600 300MHz/64MB/4GB/24XCD.....Call
¥after manufacturer's rebate

Power Mac 6500 series
6500 225MHz/32MB/3GB/12XCD/33.6Mdm.....$1,399.00
6500 250MHz/32MB/4GB/12XCD/56kMdm/Zip drive.....Call
6500 250MHz/48MB/4GB/12XCD/56kMdm/Zip(Office).....$1,999.00
6500 275MHz/32MB/4GB/12XCD/56kModem/Avid cinema/...$1,999.00
6500 300MHz/64MB/4GB/12XCD/56kMdm/Zip drive.....$2,099.00

PowerBooks
G3 •250MHz32MB/5GB/20XCD/33.6 enh. modem.....$4,999.00
1400c •133MHz16MB/2GB/8XCD/128 k L2 .....Call
1400c •166MHz16MB/2GB/8XCD/128 k L2 .....Call
2400c •180MHz16MB/2GB/8XCD/128 k L2 .....Call
3400c •200MHz16MB/2GB/12XCD/33.6 modem.....Call
3400c • 240MHz16MB/3GB/12XCD/33.6 modem.....Call

PDA
Message Pad 2000 • 162MHz 5MB/8MB ROM/4MB Flash RAM...$799
Message Pad 2100 • 162MHz 8MB/8MB ROM/4MB Flash RAM...$899

Apple Servers

Call for latest prices

	Applic. Solution	¥ Internet Solution	1-Apple Share Solution
7250 120MHz/16MB/2GB/8XCD	$1,299.00	$1,599.00	
7350 180MHz/48MB/4GB/12XCD	$2,399.00	$2,699.00	$2,999.00
9650 233MHz/64MB/8GB/12XCD	$3,699.00	$4,399.00	$4,999.00

1-AppleShare IP 5.0:advanced server soft. that enables you to incorporate a server into a Intranet easily to take full advantage of Internet technology & more

UMAX COMPUTERS

$900/200
32MB/CD/33.6 Modem
ONLY $1,899
¥After manufacturer's rebate!

Memory

Super Hot Deal
32MB RAM $69

SIMMS/DIMMS		G3/SDRAM	
16MB	$28	16MB	$28
32MB	$69	32MB	$69
64MB	$129	64MB	$129
128MB	$449	128MB	$449

Monitors

Apple
Multiscan 15AV 15".....$369.00
Multiscan 720.....$639.00
Multiscan 750AV.....$869.00
Multiscan 850 20".....$1,499.00
Multiscan 850AV 20".....$1,759.00

Sony 17" 200ES $589.

Sony
CPD-100 ES 15".....$339.00
CPD-200 ES 17..".....$589.00
CPD-100 GS 15".....$369.00
CPD-200 GS 17".....$689.00
CPD-400 PS 19".....$1,169.00
GDM-SE2T 20".....$1,579.00
GDM-500 PS 21".....$1,759.00

Viewsonic
E655 15".....$289.00
15GS 15"(Graphic Series)...$339.00
17EA 17".....$513.00
17GS 17"(Graphic Series).....$569.00
G800 20" (Graphic series)...$999.00
VIEWSONIC 3 YEAR WARRANTY

Scanners

Agfa SnapScan 300 $195

Agfa
SnapScan 310.....$199.00
SnapScan 600.....$379.00
StudioStar (Photoshop full).....$749.00
StudioStar (Photoshop LE).....$699.00
Arcus II w/transp. adapter.....$1,299.00
Agfa DuoScan.....$3,399.00

Epson
Expression 636 Artist.....$979.00
Expression 636 Professional.$1,299.00
Expression 836 XL (12X17)...$2,299.00
836 XL transparency .adap.....$499.00

Umax Astra 610 Only $159.

Umax
Astra 1200S.....$259.00
Astra Transp. Adaptater.....$179.00
Power Look II (Photoshop)....$1,299.00
Power Look 2000.....$2,399.00

MICROTEK
Better Images Through Innovation.

ScanMaker V300 BEST BUY Only $129.
¥Model not shown!
•24-bit color depth
•Single-pass speed
•300x600 dpi optical resolution
•ScanWizard™ scanner controller soft.
•Image-editing software/OCR software

ScanMaker E3 FOR ONLY $145

35T 35MM Slide.....$699.00
ScanMaker E6.....$279.00
ScanMaker III.....$1,299.00

Modems

Supra 56k $135.

Apple
Video Phone.....$259.00
Farallon
Netopia™ 412 ISDN Modem.....$299.00
Netopia™ 440 Internet Router.....$799.00
Global Village
¥56Kbps Teleport K56 Flex ext.....$149.00
¥56Kbps Teleport K56 X2 ext.....$149.00
56Kbps PC card K56 flex.....$279.00
56Kbps PC card Ethernet.....$359.00
Supra
¥Supra Express 56e.....$135.00
¥Supra Express 56e SP.....$145.00
U.S.Robotics/3COM
¥Sportster 56k(2X tech.).....$139.00
¥Sportster 56k(2X tech.) Voice...$149.00
33.6 k PC Card upg. to 56k.....$179.00
ISDN 128Kbps PC Card $499.00
¥After manufacturer's rebate!

Digital Video

Photo DV™ & Moto DV™

Starting at $95*

FireWire Technology
•Video capture in real- time,full-motion or still-video,edit ,add effects and save back to tape w/ no loss!
¥ Camcorder not included! *MotoDV™upgrade!
•Radius Moto DV w/ FireWire Card
Full-Motion Video Capture.....$439.00
•Radius Photo DV
Still-Image Video Capture.....$439.00

Media/Storage

ZIP $129

Zip drive w/ 1 cartridge.....$129
Zip 100MB cart. (10-pack).....$125
Zip Plus drive (w/ six soft.titles)...$180
100MB Zip cartridge.....$13

Jaz Drive 1GB $369.

Jaz Drive w/ 1 cartridge.....$389
1GB Jaz Cartridge $79
2GB Jaz Drive.....$589
2GB Jaz Cartridge $129
JAZ & CD-RECORDER DUO
Jaz Drive & LaCie 2X/6X CD-R.....$799
SYJET & CD-RECORDER DUO
SyJet 1.5G & LaCie 2X/6X CD-R....$799

Software

Quark Xpress The Best price in the Market! V4.0 $689

Adobe After Effects Reg.Price $599 Now $389 Save $200

Adobe Premiere Reg.Price Now $389 Save $60

Adobe Photoshop Now upgrade $129

Adobe Illustrator Now ONLY $329

Microsoft Office 4.2.1 Now ONLY Office $299

Freehand Graphics Studio Now ONLY $299

Fractal Design's Painter5 $269

Bryce 3D Now ONLY $164

Macromedia
Director 6 multimedia studio (full)....$899.
Director 6 multimedia studio (upgrade)..$449.
Fontographer(full version).....$299.
Free Hand V7.0 (full version).....$249.
SoundEdit 16 2 (full version).....$269.
Macromedia Flash(full version).....$189.

Adobe Systems
PageMaker 6.5 (full version).....$349.
FrameMaker 5 (full version).....$479.
PageMill (full version).....$93.
Microsoft
Microsoft Word 6.0.1 (full version).....$269.

Printers

Epson Stylus 800 $369.

Apple
Laserwriter 4/600.....$679.00
Laserwriter 12/640.....$1,099.00
Epson
Stylus Photo $445.00
Stylus Color 600.....$265.00
Stylus Color 800.....$369.00
Stylus Color 1520.....$739.00
Stylus 3000.....$1,719.00
HP
DeskJet 340c.....$269.00
LaserJet 6MP.....$869.00
LaserJet 5M (6MB).....$1,499.00
LaserJet 4MV.....$2,359.00
Color LaserJet 5M $4,799.00

CALL 1-800-404-9976

Shipping By FedEx Federal Express

American Express Cards DISCOVER NOVUS MasterCard VISA

Schools & Corp. P.O.s are Welcome
Customer Service Toll-free number : 1-800-743-2998
MacNet is not responsible for typos!
ALL PRICES ARE CASH DISCOUNTED. Prices & product availability subject to change without notice - Any merchandise returned is subject to a restocking fee! When returning, call for a RMA# first! Thank You!

voice: 510-689-9488 fax: 510-689-9487 PRICES & QUANTITIES SUBJECT TO CHANGE Place Your Orders OnLine!

1-888-447-3728 • MacResQ • www.macresq.com

Toll Free SEAGATE 2.1 Gig 3.5" internal SCSI hard drives $179

PARTS,PARTS,PARTS!!		MONITORS	
CD 300i+ (tray) internal	$49	Apple 13" RGB Display	$179
CD 600i (tray) internal	$79	Apple 14" Multi-scan	$199
CD 1200i (tray) internal	$89	Apple 15" Multi-scan	$249
CD 1800i (tray) internal	$199	Apple 17" Multi-scan	$499
mounting kits OR external cases avail.			
Manual inject floppies (661-0121)**	$49		
Auto inject floppies (661-0474)**	$79		
PB 100 & 500 series floppies**	$89		
PM 6100 DOS cards	$99		
Apple Processor Cards: 132/166	$49/$99		

Mac OS

Mac OS 7.6: $18.99 (CD Rom version)

16mb EDO DIMMS $35 6500/5500/7500/7600/ 8500/8600/9500/9600

Duo 2300c 36/75014.4 $999

Duo 280c 28/1 gig/14.4 $799

Duo Dock II (w/Duo purchase) $249

POWER SUPPLIES:**	
LC thru Q 605	$19
Mac II cx /ci / Q 700	$49
Q 800 / PM 8100	$99
PM 8500 / 9500	$109
PERF. 630 thru 6200	$69
Duo Dock	$69
Q 900 / 950	$99
PM 7100 (EXCH. ONLY)	$69
PM 6100 (EXCH. ONLY)	$89
II SI	$49

Apple Color LW 12/660 $2499 w/NEW Access. Kit

PowerBook Screen Repair....only at MacResQ ! We can repair: scratched screens, bad pixels, lines, & dead screens- priced from $199 call for more DETAILS !

Mac·Res·Q.

25% re-stocking fee- ALL ITEMS REFURBISHED UNLESS NOTED AS NEW • All Parts Sold With a 90 Day MacResQ Exchange Warranty • ** = Exch. Required For Orders of 10 or Less • All Major Credit Cards With NO Surcharge. •

www.macaddict.com

Get Addicted

- Links to other key Mac sources
- News and information
- Chat forums
- Contest

imagine a new way of publishing

Mac ADDICT

A better machine. A better Web site.

does Your computer HUNGER for more DATA STORAGE?

NEW 2GB!

Data Storage

Iomega Jaz 2GB + Cartridge!
int: $549 ext: $599

Other Storage Kits	int.	ext.
Jaz 1GB + Cartridge	$299	$379
SyJet 1.5GB + Cartridge	$299	$379
Jaz 1GB + 3 Cartridges	$419	$469

CD-Recorders

AVD Panasonic 4X/8X CD Recorder
int: $429 ext: $479

Other AVD Kits	int.	ext.
Sony 2X/6X	$329	$379
Ricoh 2X/6X CD-ReWriteable	$449	$499
Yamaha 4X/2X/6X CD-RW	$499	$599

CD-R Blanks
Mitsui GOLD, TDK GREEN & Verbatim Blue. Printable, Spindle, CD-RW too! As Low As $1.99

CD Duplication

Multidrive Duplication Systems

Mediastore Easy CD-2-CD Duplicator	$999
MediaFORM CD-2-CD Duplicator	$2699
MediaFORM 4600 6-CDR Duplicator	$6999

pictured ^

NEW!

Autoloader Duplication Systems

MediaFORM 50-CD Duplicator	$5999
Champion 50-CD Duplicator	$5999
< Champion 150-CD Duplicator	$6999

Recorder Duos

Extreme Sony 2X/6X CD-R & your choice of Jaz drive or SyJet drive in one unit! $749

Other Extremes	
Panasonic 4X/8X + JAZ or SyJET	$829
Ricoh 2X/6X CD-ReWriteable + JAZ or SyJET	$849
Yamaha 4X/2X/6X CD-RW + JAZ or SyJET	$899

CD Labeling

Picasso CD COLOR PRINTER
Includes 10 free pieces of printable CD-R $1199

CD Stomper Labeling Kit: $49

ORDER TOLL FREE! VISA MasterCard DISCOVER NOVUS POS Product Prices and Availability Subject To Change

800.555.5551

open M-F: 7 a.m. - 6 p.m. (PST) • international ph. 714-974-5551 • fx. 714-279-1690

Ad Code: LB-103

MEDIASTORE www.mediastore.com

ADVERTISER INDEX

ADVERTISER	PAGE NO.	PHONE NO.	WEB ADDRESS
Access Software	85	800-800-4880	www.accesssoftware.com
Aladdin Systems	53	415-761-6200	www.aladdinsys.com
Aspyr Media	IBC	512-708-8100	www.aspyr.com
ATI	89	905-826-2600	www.atitech.com
Awhen	110	888-89-AWHEN	www.awhen.com
Bungie Software	OBC	800-295-0600	www.bungie.com
ClubMac	94-95	800-258-2622	www.club-mac.com
Coast to Coast Memory	111	800-4-Memory	http://18004memory
Compu America	98-99	800-533-9005	www.compu-america.com
Compu.D	93, 102	800-929-9333	www.compu-d.com
Computer Discounters	111	800-964-1882	www.computerdiscounters.w1.com
Computer Exch, The	110	800-304-4639	www.compexch.com
DataViz Inc.	7	—	www.dataviz.com
DFI	111	800-390-7020	—
Earthlink	73	800-395-8425	www.earthlink.net
Eritech International	111	800-808-6242	www.eritech.com
FWB Software, LLC	49	650-482-4800	www.fwb.com
Go2net	59	—	www.metacrawler.com
Imagine Zone	48	—	—
Infinity Micro	110	800-589-1234	www.infinity-micro.com
LA Computer Center	96-97	800-689-3933	www.lacc.com
Leister Productions	109	717-697-1378	www.leisterpro.com
Mac Net	106	800-404-9976	www.applemacnet.com
Mac Power Sales & Service	110	888-275-POWER	www.mac-power.com
Mac Solutions	109	800-873-3RAM	www.macsolutions.com
MacResq	107	888-447-3728	www.macresq.com
MacSoft (a GT Interactive Company)	67, 77, 81, 92	800-229-2714	www.wizworks.com/macsoft
Mactell Corporation	IFC-1	888-MACTELL	www.mactell.com
MacZone	103	800-304-0286	www.maczone.com
Media Guide	109	800-463-0686	www.mediaguide.com
Media Store	107	800-555-5551	www.mediastore.com
MicroMat Computer Services	5	800-829-6227	www.micromat.com
Newer Technology	26-27	316-943-0222	www.newertech.com
Other World Computing	100-101	800-275-4576	www.macsales.com
Parsons Technology	105	800-243-6169	www.parsonstech.com
Power Max	104	800-441-6922	www.powermax.com
PowerOn	111	800-673-6227	www.poweron.net
R.J. Cooper & Associates	111	800-RJCooper	www.rjcooper.com
STAZ Software	11	800-348-2623	www.stazsoftware.com
Techworks	2	(800) 688-7466	www.techworks.com
THQ Inc.	61	818-591-1310	www.paximperia.com
Try Before You Buy	69	—	—

Reach more than 150,000 Mac Addicts!

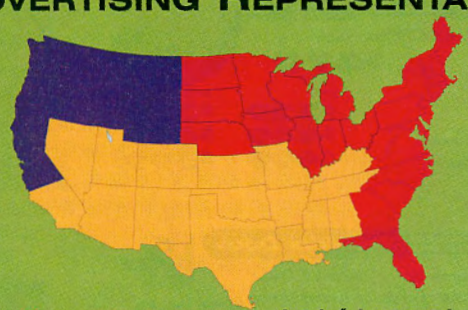
Over 40% of our readers **bought a product/ service** as a result of reading *MacAddict*. Be sure they see *your* sales message - - call today to reserve your space!

MacAddict
150 North Hill Dr.,#40
Brisbane, CA 94005

TEL: 415-468-4684
FAX: 415-468-4686
http://www.macaddict.com

imagine
a new way of publishing

ADVERTISING REPRESENTATIVES



Christina Sorrentino, 516-421-2832
Regional Ad Manager
e-mail: csorrentino@macaddict.com
East Coast U.S., North Central U.S. and Eastern Canada

Don Kimenker, ext. 754
Regional Ad Manager
e-mail: dkimenker@macaddict.com
Bay Area, Northwest, and Western Canada

Kevin White, ext. 497
Regional Ad Manager
e-mail: kwhite@macaddict.com
Southwest and South Central U.S.

André Lengyel, ext. 416
National Ad Manager
e-mail: alengyel@macaddict.com

Jana Massey, ext. 194
Ad Coordinator
e-mail: jmassey@macaddict.com

Brian Schussler, ext. 734
Electronic Software Sales Director
e-mail: bschussler@imagine-inc.com

MACADDICT NETWORK
Camilla Colegrave, ext.121
Online Advertising Manager,
e-mail: ccolegrave@macaddict.com

NEW!

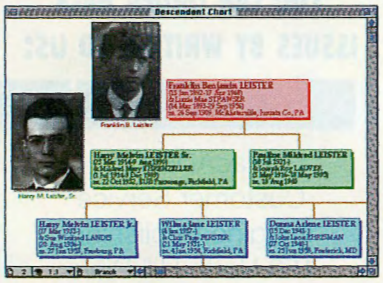
- Sound & video
- Web publishing
- New charts
- Unlimited people
- Unlimited facts and events
- Unlimited sources
- Unlimited chart size
- Hebrew date conversion

Full demo at www.LeisterPro.com
To order, call
MacConnection 1-800-334-4444

"Spectacular"
MacWorld 1/98

Reunion 5

BETTER THAN EVER!



The most comprehensive family tree software available. Create large, beautiful pedigree and descendant charts – plus, new for Reunion 5, relative and timeline charts. Play sounds & watch videos. Print mailing lists, birthday and anniversary calendars, and book reports – *they're great for family reunions.* Reunion makes it easy to share your family information on the internet, with automatic HTML reports and "Web Family Cards" with pictures.

Reunion is easy to use, fast, fun and made for the Macintosh.

Leister Productions
PO Box 289, Mechanicsburg, PA 17055
phone 717-697-1378 *fax* 717-697-4373
e-mail: info@LeisterPro.com • *web site:* www.LeisterPro.com

the BEST of EVERYTHING ★★★★★ Computer Life

MediaGuide BUY/SELL/TRADE

OLDER MACS		POWER MACS		MONITORS	
Mac Plus 4/0	$49	6100/60 8/500/CD	$599	Apple 12" mono	$89
SE 4/40 (800k)	$79	7100/66 8/500/CD	$649	Apple 12" RGB	$119
SE 4/40 (FDHD	$119	7100/80 8/500/CD	$699	Apple 13" RGB	$149
SE/30 8/80	$149	7200/75 8/500/CD	$649	Apple 15" MS	$299
Classic 4/40	$119	7200/90 8/500/CD	$749	Apple 16" RGB	$349
Classic II 4/80	$149	8100/80 16/500/CD	$799	Apple 17" MS	$499
LC 4/40	$89	8100/100 16/500/CD	$899	Apple 20" MS	$899
LC III 8/80	$139	7500/100 16/1gig/CD	$1099	PRINTERS	
Mac II 4/40/Video	$69	7300/200 32/2gig/CD	$1499	Imagewriter II or LQ	$99
IIsi 5/40	$99	More Power Macs and Clones in stock...CALL!		Apple Laserwriter	$99
IIcx 8/40/Video	$99	POWERBOOKS		Laserwriter IInt	$199
IIci 8/80	$149	PB 140 4/40/14.4	$299	Laserwriter IIntx	$249
IIvx 8/80	$159	PB 160 8/80/14.4	$499	LW IIf / IIg	$299/$499
IIfx 8/160/Video	$199	PB 165 12/120/14.4	$599		
68040 MACS		PB 170 8/80/14.4	$499		
Quadra 605 8/160	$349	PB 180 12/120/14.4	$699		
Centris 610 16/500	$349	PB Duo's from	$199		
Quadra 610 16/500	$399	PB 190cs 8/500	$899		
Quadra 630 12/250	$399	PB 520 12/240/19.2	$849		
Centris 650 16/500	$449	PB 520c 12/240/19.2	$949		
Quadra 650 16/500	$499	PB 540 12/240/19.2	$979		
Quadra 700 8/500	$449	PB 540c 12/320/19.2	$1099		
Quadra 800 16/500	$529	5300 8/500	$849		
Quadra 900 8/500	$599	5300cs 8/750	$999		
Quadra 950 8/500	$649	5300c 16/1gig	$1999		
Quadra 660AV 16/500	$499	1400s / 3400s..BEST prices!			
Q 840AV 16/500/CD	$649				

SUPER DEAL!!
Powerbook Duo 280c 40/1gig/14.4 only $799 !!
Add a Duo Dock for just $99 !!

MANY OTHER PARTS, PERIPHERALS, MEMORY, (YOU NAME IT!) IN STOCK!

(888) 466-2271

Local/Int'l: (303) 571-1900 • Fax: (303) 571-5020
E-mail: Sales@MediaGuide.com • http://www.MediaGuide.com
Prices listed reflect a 3% cash discount • Prices subject to change • Returns subject to 15% restocking fee

A better machine. A better magazine.

Mac ADDICT

YOU CAN ORDER BACK ISSUES BY WRITING TO US:

MACADDICT
CUSTOMER SERVICE
IMAGINE PUBLISHING
150 NORTH HILL DR.,
BRISBANE, CA 94005

PLEASE SEND CHECK OR MONEY ORDER AND SPECIFY WHICH ISSUE YOU WOULD LIKE TO ORDER. (SORRY, WE ARE OUT OF DEC 96, JAN, FEB, APRIL & MAY 97).

August/97

September/97

Inside the U.S. please send: $8.99 for magazine and CD-ROM; $5.95 for magazine only. Outside the U.S. please send: $12 for magazine and CD-ROM; $8 for magazine only. U.S. prepaid funds only.

MEMORY

Lifetime Warranty!

BEST PRICES!

Apple® Authorized Value-Added Reseller

MAC Solutions

SDRAM - In Stock!		PowerBook RAM			Specials	
32mb	$ 60	16/32mb	500	$68/125	GV 56k Modems	$ 160
64mb	$ 210	16/24/32	1400	$68/93/113	Quantum 2.1 gb	$ 230
128mb	$ 415	32/48mb	5300	$115/170	Quantum 3.2 gb	$ 260
4mb Video RAM	$ 58	64/128	G3/3400	$200/380	Quantum 4.2 gb	$ 299
168 Pin DIMMs		**SIMMs 30/72 Pin**			Quantum 6.4 gb	$ 399
16mb	$ 27	16mb	72 pin	$ 30	**Cache/VRAM**	
32mb	$ 30	32mb	72 pin	$ 55	44/64/65 512k	$ 50
64mb	$ 58	4mb	30 pin	$ 13	72/76/85 512k	$ 42
128mb	$ 117	16mb	30 pin	$ 57	72/76/85 512k	$ 75
					1 mb VRAM	$ 20

All prices are subject to change. Limited to stock on hand. #12/29

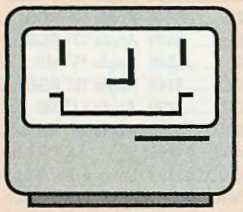
WE BUY, SELL & TRADE MACS!
CALL (800)80-WE-BUY

MAC Solutions

11933 Wilshire Boulevard
West Los Angeles, CA 90025
Tel: (310) 966-4444 Fax: (310) 966-4433
www.macsolutions.com
University & School P.O.'s Welcome
VISA-Discover-MC-AMEX no surcharge

(800) 873-3RAM

USED MACINTOSH!



- ★ We match buyers and sellers of used MAC equipment!
- ★ All MAC models available; SE to POWER PC.
- ★ All hardware is tested and includes a limited warranty.
- ★ Qualifying School, Gov't and Fortune 1000 POs Welcome
- ★ We also specialize in used trade-ins

The Computer Exchange

800-304-4639

www.compexch.com
Cust Service: 404-315-8518
Fax: 404-315-7840
2100 Cheshire BR Rd., Suite E
Atlanta, GA 30324

BUY•SELL•TRADE•LEASE | UPGRADE • REPAIR

www.awhen.com

Mac IIci cache or nubus ethernet card	$ 15
Power Book 170	$ 499
Power Book 5300c/100 8/500	$ 1150
Duo 230 12/230 w/docking station	$ 549
Video Cards 24-bit apple nubus	$ 89
Mac IIcx13"RGB, keyboard,mouse	$ 250
Mac IIsi 13"RGB, keyboard,mouse	$ 255
Mac IIci 13"RGB, keyboard,mouse	$ 299
Performa 5200 8/.8G/4xCD	$ 999
SE 4/20 keyboard and mouse	$ 149
13" RGB Apple	$ 149
SE/30 8/80	$ 199
Quadra 700 8/230	$ 399
Quadra 660av 8/230/CD	$ 499
Quadra 950 16/830	$ 599
Centris 650 8/250	$ 399
Quadra 840av 8/500	$ 799
Apple LW	$ 149
Apple LW II	$ 399

Toll Free Sales Hot-line @ 888-89 AWHEN
ALL OTHERS USE (801) 547-9241 VOICE
8:00am-6:00pm MDT (801) 771-0079 FAX
We accept all major credit cards

Mac POWER
Sales & Service, Inc.
BUY • SELL • TRADE
UPGRADE • REPAIR
New • Used • Refurb.

• Powrbooks	• Printers
• PowrMacs	• Peripherals
• Performas	• Ram
• Quadras	• Parts
• MacII-LC	• Software
• Monitors	• Accesories

Call now for best prices!
888-275-POWER
Fax: 408-448-6132
1080 Blossom Hill Road #E
San Jose, California, 95123

Infinity Micro

RasterOps

2289 Westwood Blvd.
Los Angeles, CA 90064
800 • 589 • 1234
Tel:(310)470-9426
Fax:(310)470-4956
Web Site @ www.infinity-micro.com

NEW POWERMACS!

G3/233MHz 32/4GB/24XCD	$1875.
G3/266MHz 32/4GB/CD/ZIP	$2275.
G3/266MHz 32/6GB/CD/ZIP	$2845.
4400/200 16/2GB/8xCD/KB	$1095.
4400/200 32/2GB/CD/OFF/KB	$1285.
4400/200 32/2GB/CD/PENT.	$1945.
6500/225 32/3GB/CD/3F/KB	$1445.
6500/250 32/4GB/CD/ZIP/KB	$1645.
6500/250 48/4GB/CD/3F/MS	$1845.
6500/275 48/4GB/AVID	$2095.
6500/300 64/4GB/12XCD	$2095.
7100/80 8/700/CD	$895.*
7200/90 8/500/4XCD	$895.*
7200/120 16/1G/4XCD	$1095.
7200/120 8/1.2/4CD/PENT.	$1595.
7300/180 16/2GB/CD/KB	$1375.
7300/180 16/2GB/CD/DOS	$2145.
7300/200 32/2GB/CD/KB	$1545.
7600/8100/8500/9500 SERIES	$CALL.
8600/200 32/2GB/CD/zip/kb	$1995.
8600/300 32/4gb/12xCD/z/k	$2695.
9500/180MP 32/2G/8XCD	$2295.
9600/200 0/0/12XCD	$1695.
9600/200 32/4GB/CD/KB	$2395.
9600/200MP 32/4GB/CD/KB	$3095.
9600/233 32/4GB/12XCD	$2595.
9600/300 64/4GB/16xCD/Zip	$2995.
9600/350 64/4GB/24xCD/Zip	$CALL.

Apple Servers

7250/120 12/1GB/Internet	$1395.
7350/180 48/4GB/12xCD	$2375.
7350/180 48/4GB/CD/Internet	$2795.
7350/180 48/4GB/CD/A.Share	$3895.
9650/233 64/4GB/CD/Internet	$4695.
9650/233 64/2x4GB/CD	$5645.
9650/233 64/2x4GB/CD/A.S.	$5645.
9650/233 64/4GB/AS/DAT	$5645.
9650/350 64/4GB/CD/A.S.	$CALL
500/132 32/CD/Base System	$6295.

Scanners

AGFA SNAPSCAN 310	$195.
SNAPSCAN 600/600ART	$385.
AGFA Arcus II w. transparanci	$1445.

PERFORMA

5200/75 8/800/4XCD	CALL.
5300/5260/120	1195.
5400/180 16/1.6GB/CD	1295.
6116/60 8/700/CD	795.
6220/75 TV/16/1GB/CD/TV	845.
6400/200 16/2.4/8X-CD	1195.

PRINTERS

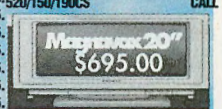
StyleWriter II Printer	179.*
StyleWriter 1200/2200	99./385.
StyleWriter 4100/4500	239./339.
StyleWriter 6500	449.
LaserWriter 4/600	695.
LaserWriter 360	795.
LaserWriter 12/640	1029.
LaserWriter 16/600	1085*
LaserWriter 8500	2495.
Color Laser 12/600PS/240HD	2495.
Epson Stylus 600/ 800	249/379.
Epson Stylus Color 3000	1695.
HP LaserJet 5MP	675.
HP LaserJet 6MP	859.
HP DeskJet 870CXI	389.
HP DeskJet 1600CM	1585.
HP LASERJET 4MV Printer	2195.
HP 5SIMX Printer	3395.
HP 4M/5M Toner Cartridge	85.
Gcc Elite XL-808	2585.
Gcc Elite XL-1208	3445.
Gcc Elite XL-1208 Supersize	4895.
Fargo Pictura 310E w. Post.	2295.

POWERBOOK'S

G3/250MHz 32/5GB/20XCD	$4995.
3400C/240MHz 16/3GB/CD	$3795.
3400C/240MHz 16/3GB/CD/56	$3595.
3400C 200MHz 16/2GB/12xCD	$3195.
3400C 200MHz 16/2GB/8xCD	$3095.
3400C 200MHz 16/2/CD/56k	$2795.
3400C/180MHz 16/1.3/GB/12CD	$2695.
3400C/180MHz 16/1.3/GB/6xCD	$2595.
1400C/166 16/2GB/8XCD	$2345.
1400C/133 16/1GB/CD	$2195.
1400C/117 32/1 GIG/CD	$2095.
1400CS /117 16/750/6XCD	$1695.
1400CS/133 16/2.1GB/CD	$1795.
5300CE/117 32/1G	$1795.
5300C 16/1GIG	$1595.
5300CS 16/750	$1295.
5300 8/500 MONO	$895.
2300C 20/1GB/14.4/DOCK	$1795.
2300C 20/1GB/14.4	$1295.
2300C 8/750	$995.
2400C /180 16/1.3GB	$3095.
540C 16/500/14.4	$1195.
520/150/190CS	CALL

SPECIALS

Motorola 3000/160	$ 895.
Motorola 3000/200	$ 995.
Farallon EtherWave Mac PowerBook Adapter	$179.
EtherWave Transiver	$ 79.
AGFA ARCUSS	$1195.
RADIUS PIVOT	$ 195.
PowerPort Mercury	$ 99.
Apple 20" Multiscan	$995.



HEWLETT PACKARD
LASERJET 5MP
600DPI B&W LASER
POSTSCRPIT LVL 2
$645.

APPLE COLOR LASER
12/600PS DEMO
28MB RAM, 240MB HD
NEW ACCESSORY KIT
$1995.

A better machine. A better magazine.

Mac ADDICT

A better machine. A better magazine.

YOU CAN ORDER BACK ISSUES BY WRITING TO US:

MacADDICT
Customer Service
Imagine Publishing
150 North Hill Drive
Brisbane, CA 94005

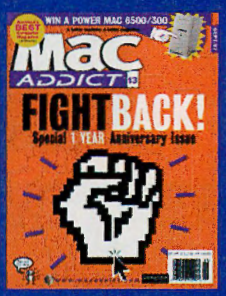
March/97

June/97

August/97

OCTOBER/96

November/96



September/97

PLEASE SEND CHECK OR MONEY ORDER AND SPECIFY WHICH ISSUE YOU WOULD LIKE TO ORDER. (SORRY, WE ARE ALL OUT OF DEC 96, JAN, FEB, APRIL AND MAY 97).

Inside the U.S. please send: $8.99 for magazine and CD-ROM; $5.95 for magazine only. Outside the U.S. please send: $12 for magazine and CD-ROM; $8 for magazine only. U.S. prepaid funds only.

DFI

20" Sony Color *BLOWOUT MODEL!*

Model GDM 1960 SuperFine Pitch Trinitron Tube .28 DP

•1 Year Warranty 1024 x 768 Refurbished • Tilt Swivel Base Only **$649!**

We also carry Sony Monitors
19"as low as $549 17"as low as $299

Call for details **800•390•7020**

181 Salem Street, Malden, MA 02148
Mastercard, VISA, Discover

BIGGY

(actual size) I-beam 'wait'

Tired of searching for your cursor? Then you *must* try my **BIG *animated* cursor utility!**

1-800-RJCooper

714-661-6904 rj@rjcooper.com
Free demo at website:
www.rjcooper.com
(also, other items for people with special needs)

BUY • SELL • TRADE MEMORY

• **WE CAN *BEAT* ANY QUOTED PRICE IN THIS MAGAZINE**

• **WE CAN PAY HIGHER THAN ANY ONE FOR *YOUR* OLD or BROKEN MEMORY**

Lifetime Warranty on All Parts

1•800•4•MEMORY
HTTP://18004MEMORY.COM

MEMORY MEMORY

Lifetime Warranty — Serving Computer Industry Since 1981 — Best Price!

168 PIN DIMM

8/16MB	$29/39
32MB	$69
64MB	$125

72 PIN SIMM

4/8MB	$10/19
16MB	$32
32MB	$59

30 PIN SIMM

1/2MB	$8/12
4MB	$14
16MB	$55

VRAM

256K	$12
1MB DIMM	$24
2MB f/PM 9500	$69

We Specialize in PowerBook Memory

PB. 3400

16/32/48MB	$85/129/179
64/128MB	$240/390

PB. 1400

16/32/48MB	$75/129/179

PB. 5300, 500 & 190

16/24MB	$89/129
32/48MB	$149/185

PB.140/145B/160/165C/170/180C & PB.DUO Series Call; Best Prices

CACHE

256K /512K DIMM	$39/75
256K f/Performa 5400 & 6400	$85

MOTOROLA StarMax & PowerComputing **Memory**
In Stock. Call for Super Prices!

We Accept P.O.'s from Academic Institutions, Government & Qualified Firms.

eritech INTERNATIONAL, INC.
4551 San Fernando Rd., Suite 110, Glendale, CA 91204

Toll Free **1-888-808-6242**
CALL www.eritech.com
Phone:(818)244-6242 FAX:(818)500-7699
e-mail:eritech@sprynet.com
Prices Are Subject to Change without Notice!

COMPUTER DISCOUNTERS

WE WILL SAVE YOU MONEY - THE TOTAL HARDWARE SOURCE!! NEW, REFURBISHED and DEMO EQUIPMENT IN STOCK. MAC PRINTERS, COMPUTERS & POWERBOOKS IN STOCK NAME BRAND PENTIUM SYSTEMS from $899 to $1995

WE BUY USED/DISCONTINUED MAC HARDWARE!

MACINTOSH SPECIALS

POWERBOOKS
5300C 100MHz 16/750/Active Color.....$1399
540 - 4/240/Monachrome.....$795
100 Series.....$350-$650
Global Village PB Mercury & PC Card 14.4.....$29
Radius Thunder PC 30/1152 & 1600... $199/199

68030 PROCESSOR MACS
IICX/IICI 8/80.....$99
IIVX 8/80-160.....$149

68040 PROCESSOR MACS
CENTRIS 660AV 8/230.....$299
CENTRIS 610/650.....$259/299
QUADRA 650 8/230.....$350
QUADRA 840AV 16/500/CD.....$695
QUADRA 950 16/250.....$395

POWERPC PROCESSOR MACS
PowerMac 7100/80 8/250.....$595
PowerMac 8100/100 16/1GB/CD.....$799
PowerMac 6100/60 16/250
w/14"Apple Monitor.....$599

LASERWRITERS
DEC Laser 1152 PS/2 2MB.....$199
HP Laserjet 5MP.....$499
HP 4MV/5M/5SiMX.....$1695/1395/2395
Laserwriter IINT/IINTX.....$185/185
Laserwriter IIG.....$299
New Toner for LWPro 810.....$145
Personal Laserwriter NT.....$195
QMS 1660E 11"x17" 1200DPI.....$1199

MONITORS
Special – Mac Monitors
HP A2094A 20"Sony Trinitron 1152 x 870 @ 75Hz MPR II.....$399

8383 Leesburg Pike, Vienna, VA 22180
10543 Ewing Road, Beltsville, MD 20705
Toll Free # (800) 964-1886
www.computerdiscounters.w1.com

System 8.0 Complete Upgrade $52.99 or MacOS 7.6 $19

12X CDROM SCSI $99 *external $129

28.8bps Modem EXTERNAL $49 *includes cables

Apple PERSONAL LaserWriter NTR $69 Upgrades Personal LaserWriter SC or NT to NTR

CLEAR MOUSE $19.99 Mac OS

17" Color (R) Trinitron™ $249 *$199 w/CPU

MacOS 6.x, 7.1, 7.5 & 7.6 Disks	19.00	Apple 1710AV Monitor (U)	499.00
Hard Drives, SCSI 40mb/80mb	25/45	Apple 20" MultiScan Mtr (R)	799.00
Apple 1.44 Floppy Drives (P)/(N)	79/99	Color 20" Monitors (U) *from*	599.00
Performa Hard Drives IDE 1GB (N)	159.00	Apple 17" MultiScan Mtr (U)	399.00
Ethernet PDS/NuBus/PCI	55.00	Apple 15" MultiScan Mtr (U)	229.00
ADB Single Button Mouse (N)	16.50	Apple 14"AV MultiScan Mtr (U)	279.00
Case Parts 68000, 020, 030 *from*	10.00	Apple 14" Color Plus Mtr (U)	199.00
		Apple 14" MultiScan Mtr (U)	179.00
		Apple 13" RGB Trinitron Mtr (U)	179.00
		Apple ImageWriter II (U)	79.00
		Epson Stylus 600, 1440 dpi (N)	279.00
		Epson Stylus 800, 1440 dpi (N)	379.00
		Apple Personal LaserWriter LS (U)	129.00
		Apple LaserWriter IInt w/Toner (U)	199.00
		Apple LaserWriter IIg w/Toner (U)	399.00
		Apple LaserWriter Select 360 (U)	599.00

PACKAGE DEALS Include:
System SoftwareDisks, 13" Color Monitor, Video Card (if needed), Ext. Keyboard, MS Works 2.0 or Photoshop 2.5 LE

Mac SE 4/120 w/Key & Mouse (U)	99.00		
Mac SE/30 8/80 w/Key & Mouse (U)	199.00		
Mac IIcx 8/160 *PACKAGE*	299.00		
Mac IIx 8/160 *PACKAGE*	299.00		
Mac IIsi 9/80 *PACKAGE*	299.00		
Mac IIci 8/160 *PACKAGE*	399.00		
Mac IIci 8/160 *PACKAGE*	399.00		
Mac IIci 0/0	99.00	Mac IIx 0/0	69.00
Mac IIcx 0/0	69.00	Mac IIfx 0/0	99.00

HP LaserJet 5MP (R) 6ppm, 600dpi includes Toner **$499**

PowerON computer services • 4323 Anthony Ct. #1 • Rocklin, CA 95677

Weekly WEB SPECIALS **800.673.6227**
www.poweron.net
Prices subject to change without notice. *All Prices include 3% cash discount. (916) 652-1880 • (916) 652-1881 FAX Mon.-Sat. 10a-5p PST

Mac ADDICT
A better machine. A better magazine.

The affordable and effective way to reach your market.

For information or space reservations call...
Don Kimenker (415) 468-4684 ext.754

shutdown

MacAddict Collectibles

Price: Worth less than The Bionic Bill Gates 40 Billion Dollar Man doll and more than the Talking Hair-Grow-Long Steve Jobs Action Figure. You get a special discount if you can set up Larry on a date with the old Barbie.

Special Features:

- Inflatable ego expands but won't contract on you.
- Fashionable wardrobe makes Ken doll look like a dog.
- Functional Samurai sword cuts through metal cans.
- Continues talking even when your Steve Jobs Action Figure won't.

Toys Sold Separately:

- Japanese Zen Garden Playset
- Realistic crashing network computer
- $3 billion database company that most people have never heard of before
- Radio-controlled party yacht for deep-sea schmoozing

Sequel Opportunity Employer

"Park Different." —Apple Interim Chief Egomaniac Steve Jobs found this sarcastic note stuck to his car after conveniently parking in a handicapped spot in the Apple lot. Rumor has it Jobs was last heard screaming, "diplomatic immunity," as Mel Gibson towed away his car in a low-budget sequel to the sequel *Lethal Weapon III*.

SIMPLY STEVE

In an attempt to streamline company procedures and further cut back operating costs, Apple Interim CEO Steve Jobs has simplified several formerly time-consuming processes:

- The application to become an Apple VP is now much shorter. Applicants need only answer yes or no to the question, "Have you ever worked for NeXT Software?"
- All employees now are required to become vegans to save time previously wasted on cutting up meat.
- Apple's strategic partners now will be provided with daggers so they can stab themselves in the back.

forgive us, father, but we're broke

The Vatican (http://www.vatican.va) is now selling a new double CD-ROM that comes complete with an interactive game. Although the CD-ROM is the fifth in a series of titles, critics complain that the game still doesn't beat Bungie's Myth.

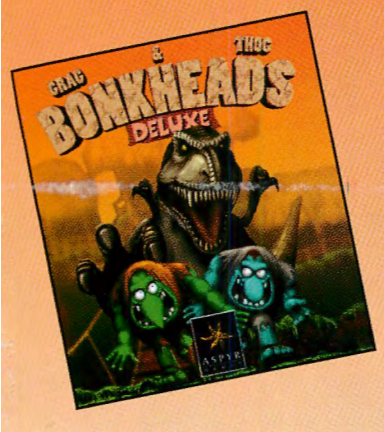
SIGHTED: STEVE JOBS' FACE IN A CINNAMON BUN.

Doodle by Jennifer Gwirtz

MacAddict Corrections

* For last month's issue, we were scheduled to run an investigative feature detailing Bill Gates' involvement in illegal antitrust agreements, but Microsoft bought us a really delicious lunch, and we forgot all about it. Oh well.
* A long time ago, we said some nice things about ex-Apple CEO Gil Amelio. We are still sorry.
* In our commemorative "Where Are They Now" issue, we neglected to mention Power Computing, the staff of *MacUser*, Marathon, the woman who threw the hammer in the 1984 Apple commercial, free technical support, Heidi Roizen, and all our former reviews editors because "where are they now" articles are really stupid, and after a while, we just got tired of doing them. Our bad.
* In last month's Editor's Note, we meant to discuss something important, but we ran out of time and wrote up a bunch of dumb predictions instead. We apologize.

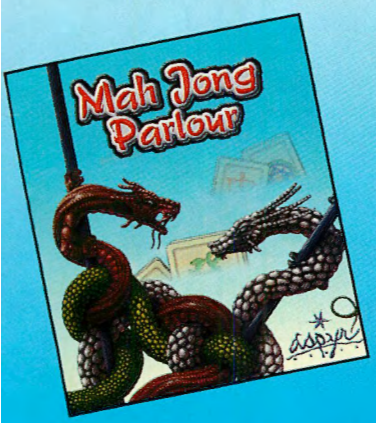
GRAG & THOG
BONKHEADS
DELUXE



SO ADDICTIVE, YOU'LL DEVELOP A HUMP.

Join Grag and Thog in their quest to save Trollsville from evil pests. 100's of levels of utter chaos. 1 or 2 players, networked & dual play.

Mah Jong
Parlour



A CLASSIC GAME OF TILES & STRATEGIES.

The true game of mah jong, MJP is easy to learn, a challenge to master. 1 - 4 players.

"I really can't say enough good things about this game. It rocks."

CARMAGEDDON

"The best racing game of the year" "The graphics in Carmageddon are incredible."

— Computer Gaming World "Carmageddon is a truly addictive racing title." — Next Generation

download
FREE DEMOS
www.aspyr.com

available at
EVERY MAC
mail-order, internet & retail sources

products that rule

www.aspyr.com info@aspyr.com
888-212-7797

© 1997 Aspyr Media, Inc. Carmageddon is ™ and © 1997 Sales Curve Interactive, Ltd. Developed by Stainless Software, Ltd.
Bonkheads Deluxe is ™ and © 1997 1 A.M. Productions. Mah Jong Parlour © 1997 Exitdata Software, Ltd.
All rights reserved on all products and trade names. Are you still reading this? Go play a game!

"Freakin' Awesome" MacAddict www.macaddict.com

★★★★★ Computer Games Strat. Plus www.cdmag.com

★★★★1/2 Computer Gaming World cgw.gamespot.com

★★★★★ Inside Mac Games www.imgmagazine.com

9 of 10 Online Gaming Review www.ogr.com

MYTH HAS BECOME REALITY

"INNOVATION AT LAST HITS THE REAL-TIME STRATEGY GENRE."
– COMPUTER GAMES STRAT. PLUS

Real-time Battle Strategy

Winning requires a combination of precise control of formations and ruthless tactics as you struggle for high ground over 3D terrain. A 3D camera lets you view the action from any angle.

Unprecedented Realism

Rain and snow quench fires and rivers hide the undead, while mighty explosions and magic lightning ripple and char the ground, sending limbs arcing through the air, trailing gore.

Addictive Multiplayer Carnage

Free* Internet games via bungie.net let you battle to the top of worldwide rankings. Cooperate, play solo or in teams. Epic 16-player bloodbaths of Territories, Capture The Flag, and others!

And an Engaging Story!

Plot and characters come alive through narration and animated clips. Battle betrayal and treachery in your own ranks as The Fallen Lords threaten to overrun the last strongholds of your ravaged and despairing world.

MYTH™ THE FALLEN LORDS

Welcome to Myth: The Fallen Lords, a three-dimensional world where broken swords and bent arrows litter the ground, and the blood of your enemies lies in pools at your feet. A world of harsh rain and breathtaking landscapes, where rivers reflect the haggard faces of soldiers and hide the rotten corpses of the undead. A world you can experience from any point of view. Welcome to Myth: The Fallen Lords, a world where terrifying myths have become reality.

Check out the game that earned CGW's "CG Choice," PC Games' "A List," and Strat. Plus' "Stamp of Approval" at www.bungie.com or call 800 295-0060 to get yours now!

Available for Windows® 95 and Mac™ OS

* Access to bungie.net is FREE. Player is responsible for applicable Internet fees.

Myth: The Fallen Lords and bungie.net are trademarks of Bungie Software Products Corporation. All rights reserved. © 1997 Bungie Software Products Corporation.

BUNGIE bungie.net